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ABSTRACT

Teacher Corps research adaptation projects were linked together as an experiment to determine the processes and problems of applying validated research to the needs of public schools and teacher training institutions. Various papers report the degree of change on populations and institutions caused by the projects. Section one addresses the concept of change with a review of several change models. The second section contains excerpts from five case studies on change, and the third section documents change through process analyses. (CJ)

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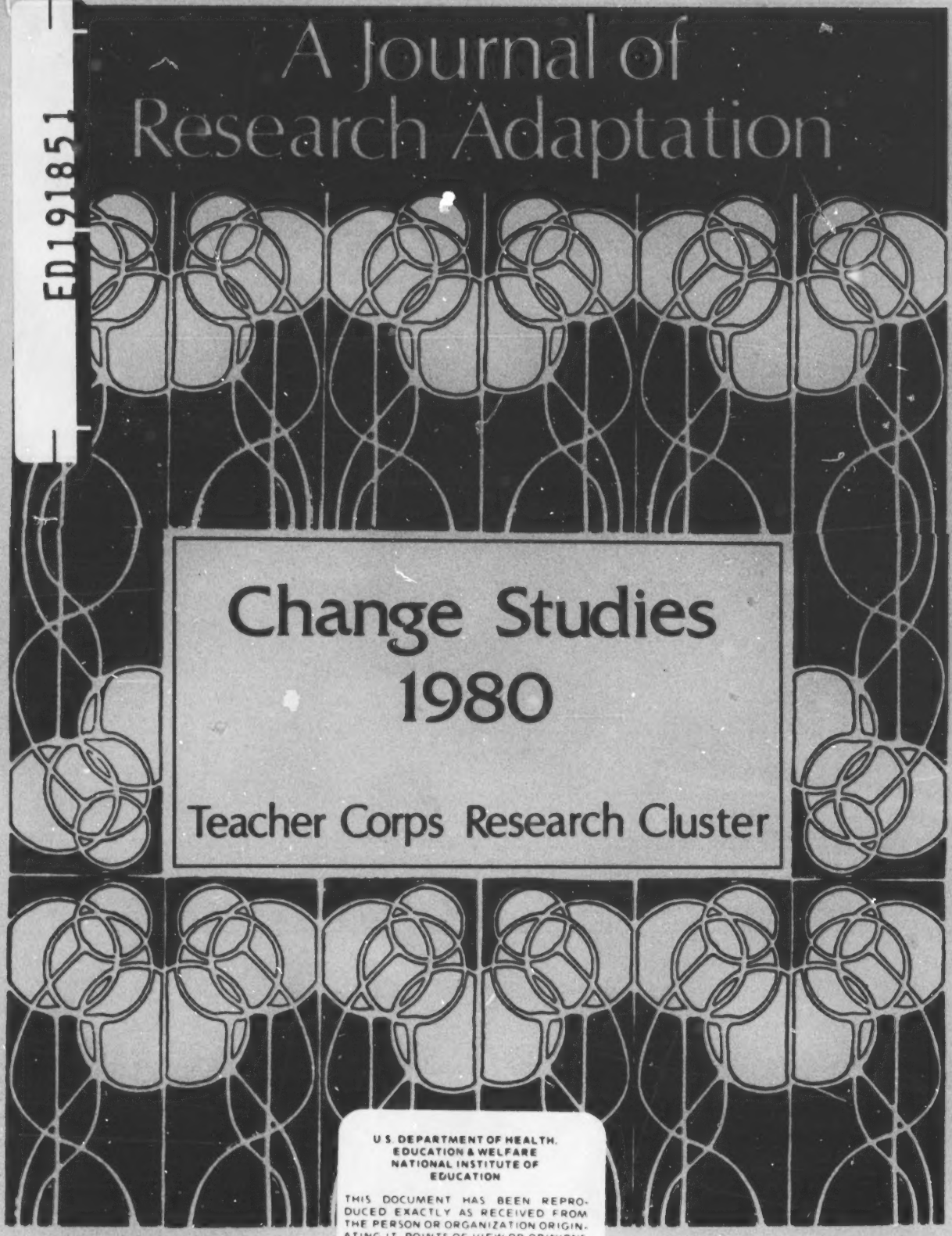
A Journal of Research Adaptation



Change Studies 1980

Teacher Corps Research Cluster

SP 016 737

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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The Research Adaptation Cluster publishes articles concerned with educational research, staff development and educational change; issues, trends, and policy are emphasized. Materials are reported pursuant to Contract No. 300-78-0466. Views expressed do not necessarily represent official Department of Education position or policy.

1980

Introduction

As part of its analysis/synthesis effort of Teacher Corps' research adaptation projects, the Research Cluster is engaged in a retrospective inquiry of the extent of *impact* and *change* caused by these projects. This journal is a partial report on how certain populations or institutions (i.e., practitioners, teacher educators, students from public schools and/or institutions of higher education) were changed by research adaptation. A journal addressing the impact of these projects preceded this report, and a monograph synthesizing the impact and change of the 21 projects over a four-year period will follow.

Admittedly, a fine line exists between the definitions of impact and change. We are not convinced that one outcome necessarily precedes the other, or that there is a particular sequence that dictates the processes. *Impact* may be defined as a consequence of introducing a new practice into an existing set of conditions. The type and the amount of impact or effect may be observed or measured in either quantitative or qualitative terms, or both. *Change*, on the other hand, may be defined as the improvement of the status quo resulting from an innovation and evidenced by a measurable shift in skills, attitudes or behavior by personnel or institutions (Rosenau, 1978). The definitions seem to imply that *impact* describes implementation by a portion of an institution's personnel and the resulting consequences, while *change* suggests the maintenance of an institution's improved conditions.

Research adaptation projects were organized at a time (1975) when Teacher Corps distinguished them from four other programmatic thrusts: training complex, competency-based teacher education, alternative school designs and interdisciplinary training. Consequently, research adaptation projects were linked together as an experiment to determine the processes and problems of applying validated research to the needs of public schools and teacher training institutions.

The Research Cluster began its coordinating function with Teacher Corps' 10th cycle when eight projects were identified as demonstrations for adapting validated products and practices. The Washington office identified seven more projects for the Cluster in 1976 (11th cycle) and eleven the next year (12th cycle). Technically, there were 26 research adaptation projects over the four years, spanning three cycles. However, since five institutions received grants to adapt research for two cycles (10th & 12th), we are approaching our inquiry as if there were 21 projects. The lessons learned by the five projects and the differences in their designs and methodologies are considered in our analysis /synthesis research. Essentially, all projects funded under the research adaptation thrust may be viewed as "testing labs" for validating claims made for new educational products and procedures.

Articles appearing in this journal were edited by the Cluster staff and several persons commissioned to perform editing tasks. They are, therefore, excerpts from papers presented at the April RAC conference on change held in Boston.

Section one addresses the concept of change: a review of several change models; evolution and revolution; and a Teacher Corps model. Section two contains excerpts from five case studies on change, while the remaining section documents change through process analyses.

Lee A. Morris
July, 1980

Rosenau, F. *Educational Dissemination: Definitions, Acronyms, Abbreviations*. San Francisco: Far West Laboratory for Educational Research and Development, Summer 1978.

Section I Educational Change

Educational Change: A Review of Some Recent Literature

BY ROBERT P. HO*

Recent research literature on educational change is both diverse and rich. This literature stems from Federally funded evaluation studies beginning in the early 1970's. It contains findings with significant implications for policymakers as well as program developers and managers. The purpose of this paper is twofold: (l) a mapping of where the more recent studies are in the literature on educational change and (2) an analysis of their findings to determine how certain factors affect educational change. It concludes with a discussion of some implications that may be drawn from the analysis for future policy and program development.

Recent Studies on Change

Studies of educational change can be classified into three categories, each representing a distinct perspective. They are: (1) the rational or the planned change perspective, (2) the innovative organization perspective and (3) the interorganizational arrangement perspective.

Rational or the Planned Change Perspective

This approach is based upon the premise that change is essentially rational and, therefore, manageable. It can be systematically manipulated, in other words, by such external devices as good and thorough planning, viable choice of strategies and procedures for the design and implementation of innovation and lastly, appropriate support for the change effort. It is an approach that is commonly associated with the concept of "planned change" (Bennis, Benne and Chin, 1976).

Studies taking this approach focus on change efforts which are characterized by deliberate collaboration between external and internal change agents in joint attempts to bring about practice improvement in the schools. Many variables are investigated in these studies. These include: (1) the patterns and quality of interaction between external agents and local personnel in the different phases of the change process, (2) the varying organizational structures needed to support change efforts, (3) ways to overcome barriers to collaboration between external and internal change agents and (4) individual and organizational characteristics that are important to change strategy development.

Findings from these studies provide a clearer understanding of:

a. The essential preconditions for implementation of innovation by the teachers in the classroom, e.g., their levels of concern and comfort with change (Hall, 1975 & 1978; Sieber, 1972 a & b).
b. The human agent role related factors affecting the change process (Moore, 1977).
c. The specific roles and functions associated with the "initiation, implementation and institutionalization" of an innovation at the local district level (Emrick, 1977).
d. The planning approaches which lead to successful implementation of change in the schools (Miles, 1977 & 1978; Taylor, et al., 1978).
e. The capacity of local schools to solve problems using external R&D knowledge bases (Abt Associates, 1979).
f. The role of the school administrator in a multi-institutional effort to improve school practice (Abt Associates, 1979).
g. The effects of "practitioner involvement" on the change process (Emrick Associates, 1979).

Innovation Organization Perspective

Studies of educational change as a function of "innovative organization" (Louis, et al., 1978) is based on the premise that the basic characteristics of the organizational system — rather than external intervention strategies — are the important determinants of change. The school's organizational structure, climate, environment and staff attributes provide a powerful system framework that can significantly influence the direction of a change process. Moreover, interaction among these system factors can also affect a change effort.

Studies taking this approach examine change efforts that are initiated from within the school organization. In these efforts there is no collaborative relationship with external resources (e.g., an institution of higher education, a regional R&D laboratory or a state education agency) which shapes the change process at key decision points. Their focus of inquiry, therefore, is on finding correlates of change within the organizational context of the school.

These studies go beyond the particulars of a given innovation. They look at the characteristics of the school setting. These include: (1) organizational factors, (2) organizational climate as a function of staff morale, administrative support and level of tolerance for conflict, (3) staff characteristics such as background, training, experience and professionalism.

Findings from one such study, the Experimental School Program (Herriott and Gross, 1979; Rosenblum and Louis, 1978), indicate that efforts to create educational change must provide for system factors. In one analysis of these findings, Deal and Nutt (1979) conceptualize the school as a loose federation of competing socio-political zones — the administrative, instructional and the community. They conclude that the effect of a change effort can be substantively influenced by the management of intra- and inter-zone dynamics within the school-community setting.

The Rand Study (Berman and McLaughlin, 1974, 1975,

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1977 & 1978) is a well-known example of this approach. This study indicates success factors in "change agent" efforts are associated with key context variables. These include: (1) the staff's level of motivation for problem solving, (2) the "push and pull" phenomenon called "mutual adaptation, " (3) an organizational climate receptive to change and deliberately sustained and (4) a high level of local capacity to manage the change effort.

Interorganizational Arrangement Perspectives

Studies of "planned change" and "innovative organization" perspectives provide findings related to internal and external linking roles and functions, as well as the system variables affecting them. Studies of the interorganizational arrangements help describe boundary factors that shape the nature and determine the quality of interaction between and among organizations. These factors can also affect the educational change process. Paul (1974 & 1978) completed two small case studies of interorganizational arrangements for educational dissemination in Wisconsin and Utah. Drawing on Benson (1975), Paul described these arrangements along four dimensions. These dimensions are domain consensus, ideological consenses, positive valuation and work coordination.

Two NIE studies to be completed in early 1981 will provide new knowledge of educational change from this perspective. These are Chin's study of the court mandated university -school-community collaboratives in Boston (TDR Associates, Inc., 1979) and Havelock's study of three interorganizational arrangements (Knowledge Transfer Institute, 1979) involving colleges of education and public school districts. Selected sites for this latter study are the North Dakota Teacher Center Network, the Metropolitan School Study Council in New York City and the University of Maryland Field-Based Teacher Education Program.

The conceptual frameworks of these studies should yield useful insights into the change phenomenon. The framework of the Chin study proposes a contingency perspective which posits that change is a function of three sets of variables. These variables are the organizational capability of the partners to act, the nature of the knowledge or innovation to be disseminated and used and the characteristics of the students and their educational settings. The Havelock study is based on Stern's (1979) descriptions of the essential elements in an adequate analysis of interorganizational arrangements. These elements are historical development, environmental context, interaction process and structural determinants.

Factors Affecting Educational Change

Experience and research have shown that change in the educational setting is not a discrete event; it occurs as an evolving process containing a cluster of overlapping phases (Emrick, et al., 1978). Teacher Corps' five-year program guidelines, for example, reflect these recent learnings; they prescribe four major activity phases (developmental, operational, institutionalization and adaptation). Figure 1 displays these activity phases with three theoretical formulations of the educational change process derived from recent research studies (Emrick, 1977; Berman & McLaughlin, 1974, 1975, 1977 and 1978; Rosenblum & Louis, 1978).

Although implementation seems central in these three formulations (and it appears to have received the most attention), it is but one phase of the total change process. If change efforts are to be effective, an integral view of change phases needs to be developed. This section of the paper will describe how certain factors can affect change in each of these major areas.

Mobilization

Past research has paid scant attention to the planning links between policy and implementation (Fullan and Pomfret, 1977). Researchers have begun to move away from the narrow view of mobilization as simply a school's decision to change. Motivation is key in this phase; whether it is one of opportunism or problem-solving (Berman and McLaughlin, 1975 & 1978). The school's incentives to become engaged in a change experience can often be influenced by considerations such as bureaucratic safety, need to respond to external pressures and peer approval within the social system of the school (Pincus, 1974).

Rosenblum and Louis (1978) reconceptualize the mobilization phase in terms of the school's readiness for change and its initiation activities. Readiness is viewed as a function of the school's internal recognition of the need for change, its previous change experiences and the school administrator's commitment to the change. Initiation is affected by factors such as the breadth and quality of staff participation and influence in the planning efforts, the congruence of the change to the problems identified, and the staff's acceptance of change strategies and procedures. Miles (1977) argues that a school's organizational health can significantly influence its capacity to mobilize for change. He defines organizational health using dimensions such as clarity of goal focus, adequacy of communication within and between the levels of the school (e.g., teacher-teacher and teacher-administrator), staff morale and cohesiveness as well as their problem-solving orientation and adaptiveness.

The variability of the school-community boundaries and interaction between the school and its larger environment affect mobilization for change (Herriott and Gross, 1979). Although community involvement has been advocated with much ideological fervor, both Kirst (1979) and Mercurio (1979) identify several limitations. Expectations of the community involvement are often unrealistic in terms of certain segments of the community who have neither the time, motivation nor self-confidence to become involved in a school change enterprise. School professionals — particularly school administrators — are psychologically and technically unprepared to share decision-making with community groups. The issue seems to be when is community involvement most useful in the mobilization phase, and how it can be managed to assure the greatest effects.

Implementation

Major reviews of research literature on implementation (Berman, 1980; Fullan and Pomfret, 1977; Gaynor, 1977; Paul, 1977) describe a phenomenon that is complex, uncertain and not easily assured. They cite many variables that interact on the micro and macro levels of the school setting in ways which affect the success of implementation.

The clarity, compatibility, scope of the innovation and the implementation strategies chosen can influence the outcome of the implementation effort. This is particularly true on the micro level of the teacher and the classroom (Fullan and Pomfret, 1977, & Paul, 1977). In the case of a macro change effort within an entire school district, Rosenblum and Louis (1978) show that the system factors condition the outcome of implementation. The size and complexity of the school, the degree of its formalization, the modulation between staff autonomy and administrator authority and the cultural factors of the school determine the nature and quality of implementation. More importantly, system linkages between certain cultural and structural factors are also critical to effective implementation.

Gaynor (1977 & 1978) suggests that there are certain major factors affecting implementation which are "structurally interconnected" around the school. These factors account for the staying power of the school's stability in the face of change efforts. They are leadership effectiveness; support for innovation as a function of leadership; professional and community norms; conflict; external resources; and external

linkages. His conclusions indicate that the implementation of change requires incremental approaches and a much longer timeframe than currently suggested by policymakers.

The contingent nature of change postulated by Gaynor's structural theory applies beyond the immediate context of the school. On the basis of a recent analysis of the results of social policies in human service and urban renewal as well as in education, Berman (1980) offers yet another theory — that of the adaptive vs. the programmed approach to implementation. His review of the literature identified five major "situational parameters" which have had significant effects on social policy implementation. They are: the scope of change (whether it is major or small); certainty of the technology involved in the change process (e.g., the nuclear submarine program vs. the model cities program); conflict over policy goals and means (e.g., the space program vs. ESEA Title I); structure of the institutional setting (e.g., tight vs. loose coupling); and stability of the environment (e.g., court orders or new state laws like Proposition 13).

Notwithstanding either the uncertainty or the complexity of the phenomenon, findings from recent studies permit some assertions about how implementation can be effected. The following deal with five major issues: (1) participation, (2) staff training, (3) organizational leadership, (4) organizational integratedness and (5) program design.

The preponderance of evidence suggests that participation has little effect on implementation. Rosenblum and Louis (1978) in their study of the Experimental School Program show that the breadth of community and staff participation in the early phase of the change process has no relationship with successful implementation. They also conclude that the real issue is one of *who* participates, for what purpose, and when and how the participation process is managed. Research on participation, therefore, is inconclusive because the key dimensions of participation (e.g., nature, scope, timing and intensity) have not been related directly to implementation outcomes (Fullan and Pomfret, 1977).

On the other hand, Paul (1977) as well as Berman and McLaughlin (1977 & 1978) emphasized the importance of participation and the concept of "ownership" as key to succesful implementation. Whether they are ready to apply this conclusion on the program level as well as at the treatment level is a significant question yet unanswered. Therefore, the issues of scale, scope, where and when are important. Participation as a variable within implementation has to take into account the situation.

Staff development activities are emerging as a major factor affecting implementation. Fullan and Pomfret (1977) as well as Berman and McLaughlin (1977 & 1978) stress the importance of such follow up activities as technical assistance and consultation provided in the context of the classroom. Paul (1977) cites "properly applied training activities" as critical in that they deal with new roles and functions as well as specific techniques associated with an innovation. Lastly, staff development can be viewed as an even more powerful predictor of implementation effectiveness if it is conceived as an integral part of the school's program building process (McLaughlin and Marsh, 1978).

Berman and McLaughlin (1977 & 1978) describe the role of the principal as the "gatekeeper of change" and found his support as well as that of the superintendent to be critical to the implementation and incorporation of an innovation. This finding was corroborated in the conclusions of others, e.g., Emrick (1977) and Paul (1977). They seem to have skirted the larger issue of leadership patterns: what does executive support mean during implementation when that support is most critical?

Herriott and Gross (1979) as well as Baldridge and Deal (1975) found there are specific leadership tasks which if skillfully executed are associated with successful implementation, e.g., negotiation during times of conflict and organization in times of ambiguity. They further suggest that requirements for different leadership patterns vary during the change process from mobilization through implementation to continuation. For example, at the outset of a change effort, intensive exploratory activities and strategic planning for leadership — as distinct from management — are required. A proactive leadership stance is associated with the timely diagnosis of problems or obstacles and their prescription during the implementation phase. Leadership is essential, therefore, in the establishment of effective feedback mechanisms that can help enhance the integration of the school system during implementation.

Organizational integratedness is an indicator of implementation effectiveness — particularly along its qualitative dimension (e.g., number of staff members involved in and the percentage of time committed to a change activity, Rosenblum and Louis, 1978). It is a direct function of the degree to which parts or units of the school system are tightly or loosely coupled through key structural and cultural linkages. These linkage variables (e.g., authority/formalization and collegiality/level of disputes) can have more significant effects on implementation than any non-linkage ones. The different roles intervention strategies can play to help develop and maintain optimal organizational interrelatedness need to be investigated.

Design of the change program or the innovation is an issue of whether the prescription fits (or can be made to fit) the diagnosis or whether the prescription takes on a heroic proportion not commensurate with the state of the system's readiness for change. Rosenblum and Louis (1978) pointed out that even in the case of a comprehensive change effort, provisions should be made for discrete small scale innovations that can be installed separately or sequentially. This is an approach that can temper the system's capacity for change. Micro changes during the early periods of the implementation phase, therefore, would ensure the flexibility needed for the necessary adaptation of the prescription.

Diffusion literature (Paul, 1977) has investigated features of the innovation most frequently associated with implementation effectiveness. The relative advantage of an innovation's compatibility with the system's past experiences, existing values and current needs all influence the degree of its implementation. The capacity of the innovation design to tolerate alterations during implementation is related to a successful outcome.

Continuation

Current research clearly states the conceptual issues in this phase of the change process. Hage and Aiken (1970) define continuation in terms of coding new rules and regulations associated with implementation, e.g., writing new operating procedures into the job descriptions. Yin and Quick (1977) refer to the dual concepts of the innovation's passage from soft to hard money and its survival through budget reviews and staff turnover. Rosenblum and Louis (1978) consider whether the change activities continued are central or fringe; whether their continuation is total, partial or spin-off; whether the decisions made to continue are active or passive on the part of the school administrators and staff. Berman and McLaughlin (1978) define this phase of the change process along a continuum of discontinuation, isolated continuation, *pro forma* continuation and institutionalization. How these various dimensions of continuation relate to specific mobilization strategies and indicators of implementation effectiveness (e.g., its scope, quantity and quality) needs to be investigated more thoroughly.

Rosenblum and Louis (1978) point to two important factors relating to continuation: (i) a system's readiness, and (ii)

Figure 1

Three Theoretical Formulations of the Educational Change Process Derived From Recent Research Studies

1. Developmental 2. Operational 3. Institutionalization 4. Adaptation by another educational organization	1. Readiness 2. Initiation 3. Implementation 4. Continuation	1. Mobilization 2. Implementation 3. Continuation 4. Re-mobilization	1. Initiation 2. Implementation 3. Institutionalization
5-year Teacher Corps Program Activity Phases	Rosenblum & Louis 1978	Berman & McLaughlin 1974 & 1977	Emrick 1977

highly differentiated program features during implementation. For instance, changes can be targeted at a specific grade level or a clearly focused school improvement strategy like parent/community involvement. Both environment and structural factors — particularly those not easily manipulated — can also affect implementation outcome. For example, geographic isolation compounded by structural complexity (e.g., the number of units or schools in the system) can make it difficult to sustain a change effort beyond the initial implementation.

For Berman and McLaughlin (1977 & 1978) continuation appears to be strongly related to specific implementation strategies, e.g., continuous planning and training activities that are clearly responsive to staff needs, staff participation in project decisions about classroom problems and materials development, active support of school administrators through direct involvement in training and planning activities. Teacher change as a factor — separate from implementation effectiveness — affects continuation. A combination of mobilization and implementation factors can influence the scope of teacher change, e.g., classroom organization, community involvement and size of the change effort. Factors which appear to have no significant effect on continuation include level of funding, use of specialists and individualization technology.

Conclusions

It is clear that the process of educational change is complex. The state of knowledge is adequate, however, to draw some implications for future policy and program development.

- New policy or program initiatives should provide for all phases and dimensions of the change process in education as we now understand them. Educational change requires persistence as well as long-term commitment of people energy and support. A total program approach with continuous, coherent and flexible planning appears to be necessary.
- Program design is critical. This is both an issue of what it is and how it is developed. Specific program goals and the means for achieving them should come from exploration, negotiation and development at the level where the change is taking place and where its effects should be felt — be it a school district or an institution of higher education. Although a total institution may be the appropriate unit of change, discrete, small scale, intensive change activities such as staff training, demonstration, materials development and parental involvement can be most effective in the long run.
- External assistance strategies should attend to the total system, be iterative, goal-free, and responsive to client needs. Attention to adaptation (process) is indispensable. Also, a new perspective on the role of evaluation is needed. Evaluation should be used to help develop the capacity of the client system for change.
- Although there are still problems about the best ways to involve client groups, their collaboration in the development of change strategies and procedures is important. Future policies and programs should concentrate on ways to encourage clients to take a more direct responsibility for initiating and managing change processes.
- It is clear that knowledge of the target system — the environment, structure and culture as well as the characteristics of the clients — is essential to the development of new policies and programs. An integrated interdisciplinary view of change and an appreciation for the contingent quality of educational policy can result in school change programs that are both realistic and achievable. ■

References

Abt Associates. *A Proposal for the Development of Case Study Training Materials on the Role of Principal.* Cambridge, Mass: Abt Associates, Inc., 1979.

Abt Associates. *Interim Report: The RDU Project Level Study* (by Robert K. Yin). Cambridge, Mass: Abt Associates Inc., January 1979.

Abt Associates. *Interim Report: The RDU Linking Agent Study* (by Gregory Spencer and Karen Seashore Louis). Cambridge, Mass: Abt Associates Inc., November 1978.

Abt Associates. *Entering the RDU Program: An Interim Report on Initial Problems in Managing Change at the School and District Level* (by James A. Molitor and Karen Seashore Louis). Cambridge, Mass.: Abt Associates Inc., February 1979.

Abt Associates. *Linking R&D With Schools: An NIE Program and its Policy Context* (by Kent J. Chabotar and Diane G. Kell). Cambridge, Mass.: Abt Associates Inc., September 1978.

Baldridge, J. & Deal, T. (Eds.). *Managing Change in Educational Organizations.* Berkeley, CA: McCutchan, 1975.

Bennis, W., Benne, K., and Chin, R. (Eds.). *The Planning of Change* (3rd ed.). New York: Holt,Rinehart and Winston, 1976.

Benson, J.K. "The Interorganizational Network as a Political Economy," *Administrative Science Quarterly, 20,* 1975.

Berman, P. "Thinking About Implementation Design: Matching Strategies to Situations." D. Mann & H. Ingram (Eds.), *Why Policies Succeed and Fail,* Berkeley, CA: Sage, 1980.

Berman, P. & McLaughlin, M. *Federal Programs Supporting Change, Volume I: A Model of Educational Change*. Santa Monica, CA: Rand Corporation, 1974.

Berman, P. & McLaughlin, M. *Federal Programs Supporting Change, Volume IV: The Findings in Review*. Santa Monica, CA: Rand Corporation, 1975.

Berman, P. & McLaughlin, M. *Federal Programs Supporting Change, Volume VII: Factors Affecting Implementation and Continuation*. Santa Monica, CA: Rand Corporation, 1977.

Berman, P. & McLaughlin, M. *Federal Programs Supporting Educational Change, Volume VIII: Implementing and Sustaining Innovation*. Santa Monica, CA: Rand Corporation, 1978.

Deal, T. and Nutt, S. *Promoting, Guiding and Surviving— Change in Small School Districts*. Cambridge, Mass.: Abt Associates Inc., 1979.

Emrick Associates. "Development of Case Study Training Materials on School Practitioner Involvement (Technical Proposal). Los Altos, CA: John A. Emrick and Associates, 1979.

Emrick, J. with Peterson, S. & Agarwala-Rogers, R. *Evaluation of the National Diffusion Network*. Menlo Park, CA: Stanford Research Institute, 1977 (ED 147 327 and ED 147 340).

Emrick J. & Peterson, S. *A Synthesis of Findings Across Five Recent Studies in Educational Dissemination and Change*. San Francisco, CA: Far West Laboratory for Educational Research and Development, June 1978.

Fullan, M. and Pomfret, A. "Research on Curriculum and Instruction Implementation," *Review of Educational Research*, 47, Winter 1977.

Gaynor, A. "The Study of Change in Educational Organizations: A Review of the Literature." In *Educational Administration: The Developing Decades*, L. Cunningham, W. Hack, and R. Nystrand (Eds.). Berkeley, CA: McCutchan, 1977.

Gaynor, A. "Toward a Structural Theory of Innovation in Public Schools." Unpuplished paper presented at the Far West Laboratory Invitational Conference on Structural/Statistical Modeling of Educational Change Processes, San Francisco, November 1978.

Hage, J. & Aiken, M. *Social Change in Complex Organizations*. New York: Random House, 1970.

Hall, G. & Loucks, S. "Teacher Concerns as a Basis for Facilitating and Personalizing Staff Development," *Teachers College Record*, September 1978.

Hall, G. & Loucks, S. "A Developmental Model for Determining Whether the Treatment is Actually Implemented." *American Educational Research Journal*, 14, No. 3, 1977.

Herriott, R. and Gross, N. (Eds.). *The Dynamics of Planned Educational Change: Case Studies and Analyses*. Berkeley, CA: McCutchan, 1979.

Kirst, M. "Strengthening Federal-Local Relationships Supporting Educational Change," in *Dynamics of Planned Educational Change: Case Studies and Analyses*, R. Herriott and N. Gross (Eds.). Berkeley, CA: McCutchan, 1979.

Knowledge Transfer Institute. Case Studies of Interorganizational Arrangements Involving Colleges of Education (Technical Proposal). Washington, DC: The American University, 1979.

Louis, K., Rosenblum, S. & Spencer, G. "Dissemination, Utilization and Change in Schools," draft literature review in support of an evaluation of the R&D Utilization Program, Abt Associates, January 1978.

McLaughlin, M. and Marsh, D. "Staff Development and School Change," *Teachers College Record*, September 1978.

Mercurio, J. "Community Involvement in Cooperative Decision Making: Some Lessons Learned," *Educational Evaluation and Policy Analysis*, 1, No. 6, 1979.

Miles, M. *Designing and Starting Innovative Schools: A Field Study of Social Architecture in Education*. (Grant NIE -G-74-0051 and Teacher Corps/DHEW) 1974-77.

Miles, M., Sullivan, E., Sieber, S., Gold, B. & Wilder, D. *Creating New Schools*. New York: Center for Policy Research, 1978.

Moore, D. *Assistance Strategies of Six Groups that Facilitate Educational Change at the School/Community Level*. Chicago, Ill.: Center for New Schools, February 15, 1977.

Paul, D. *The Diffusion of an Innovation Through Interorganizational Linkages: A Comparative Case Study*. Madison, Wisconsin: University of Wisconsin Research and Development Center for Cognitive Learnings. (ED098236) July 1974.

Paul, D. "Change Processes at the Elementary, Secondary and Post-Secondary Levels of Education," in *Linking Processes in Educational Improvement*, N. Nash and J. Culbertson (Eds.), Columbus, Ohio: The University Council for Educational Administration, 1977.

Paul, D. *Inter-Organizational Arrangements for Dissemination: A Conceptual Framework and Two Illustrative Case Studies*. San Francisco, CA: Far West Laboratory for Educational Research and Development, June 1978.

Pincus, J. "Incentives for Innovation in the Public Schools," *Review of Educational Research*, 44, Winter 1974.

Rosenblum, S. & Louis, K. *A Measure of Change: Implementation in Ten Rural School Districts*. Cambridge, Mass.: Abt Associates Inc., 1978.

Sieber, S., et al. *The Use of Educational Knowledge: Evaluation of the Pilot State Program*, 2 Volumes. New York: Bureau of Applied Social Research, Columbia University, September 1972(a).

Sieber, S. "Images of the Practitioner and Strategies of Educational Change." *Sociology of Education, 1972(b)*.

Stern, R. "The Development of an Interorganizational Central Network: The Case of Intercollegiate Athletics," *Administrative Science Quarterly*, June 1979.

Taylor, B., Sullivan, E. & Dollar, B. *Mapping Teacher Corps Projects*. New York: Center for Policy Research, 1978.

TDR Associates. "Case Studies of Interorganizational Arrangements for the Exchange and/or Delivery of Knowledge Resources to Improve Elementary and Secondary Education (Technical Proposal to NIE). Newton, Mass.: TDR Associates Inc., 1979.

Yin, R. and Quick, B. *Thinking About Routination*. Santa Monica, CA: Rand Corporation, 1977.

Models of Change

BY LOU M. CAREY

The fixers are masters at "jerry-rigging" or the art of producing temporary solutions to problems with the materials and tools which are available at the time, and which may or may not be the right ones. Each is an expert at "jerry-rigging" particular kinds of solutions — one tinkers with electric motors, another has an instinct for linkages of gears, and yet another understands springs. Very little of this knowledge is shared, because the fixers tend to work with their backs to each other and to jealously guard their separate tool boxes. Between them all, enough tools seem to be present to handle almost any kind of problem but in order to avoid loud, angry outbursts over traditional rights to various kinds of tools and repairs, the fixers "jerry-rig" tools when they lack them rather than borrowing the proper ones from someone else's tool box.

Galt & Smith (1976)
Models and The Study of Social Change

Anthropologists, sociologists, philosophers, psychologists, economists, and educators have all provided frameworks or theories from which change models have de-

veloped. Many people believe that theories of social change are of limited value. This is because of the complexity of interactive social systems, the unmeasurable nature of the majority of variables, the competing sets of values existing within and among individuals, the increasing technology and specialization hampering communication among these groups, and the difficulty in explaining social phenomena without bias.

Some change models prescribe applying behavioral science (ABS) while others promote operations research (OR) procedures. Bennis (1966) contrasted these two approaches by pointing out that ABS scholars focus their investigations on human variables such as intervening and conditioning, while OR researchers study physical, economic and engineering variables. He suggested neither approach in isoltion is sufficient because of the interrelatedness and complexity of social-technical systems. Furthermore, Bennis advocated organizations should be viewed through three major classifications of factors: structural, economic and technical, and human. Changes in one of these areas will more than likely affect changes in the other two. Our limited ability to comprehend, analyze and explain causality in any one of these sets, or their interactions, causes those who would attempt change to appear as "jerry-riggers."

Most theorists agree that change can be planned and directed (Bennis, 1966; Esman & Bruhns, 1966; McLeish, 1969; Schaller, 1972; Galt & Smith, 1976); however, they all believe eventual changes occurring through a planned process are mutations of those intended. Schaller (1972) quoted Machiavelli in *The Prince*:

> *There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things.*

Schaller (1972) proposed that the most critical leadership skill is to be able to understand the process of planned change. He described the many pitfalls of the change agent and recommended that those who attempt to evoke change should have the following tools: (a) laudable goals and noble motives; and (b) an understanding of the nature of change, the process of planned social change, the use of power in the change process, the role and place of conflict, and the critical importance of change in organizations and institutions as well as people.

This paper provides a brief comparision of five change models and further describes Schaller's view of the change process. The utility of change models as facilitators of planning and development activities for staff development in higher education and the public schools will also be discussed.

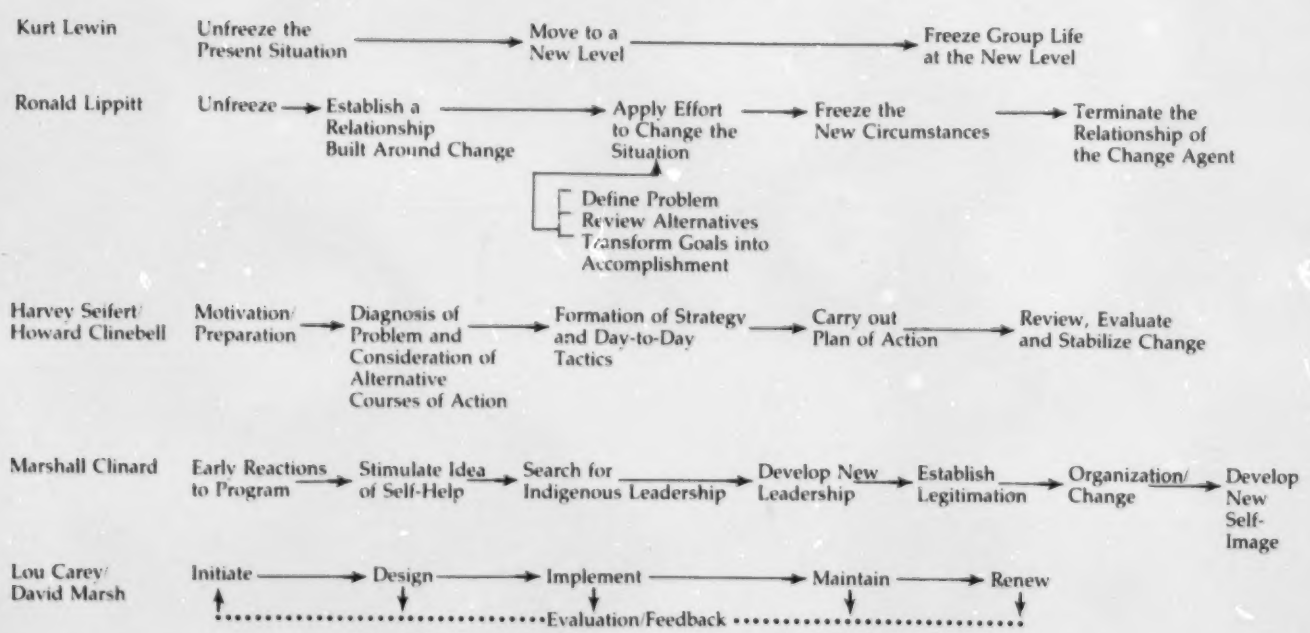
Models

Figure 2 displays five simplistic change models. The first, proposed by Kurt Lewin (1947), is a three-step model describing the change process as unfreezing the present situation within an organization, moving to the desired new level of operation, and refreezing the organization at the new, desired level.

Ronald Lippett, et al. (1958), obviously influenced by Lewin, also described the unfreezing and refreezing of the organization in their model. In addition to these two stages, they also proposed the following procedures: (a) a relationship or advocate group should be formed to steer the change, and (b) more carefully described steps should be taken to evaluate the situation and plan strategies accordingly. An interesting step in this model is the breaking of ties between the institution and the external change agent. Schaller (1972) discussed difficulties related to institutional ties with the change agent. With external agents, the goal is to enable the organization to operate without the assistance of the agent. This agent therefore, should work toward an independent association with the organization. Breaking

Figure 2

Models of Change



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ties with the internal change agent is more difficult. These persons can seem elitist to their peers during the process. This special status can block them from eventually resuming their normal position within the organization; it may even lead to alienation or eventual expulsion from the organization.

Seifert and Clinebell (1969) proposed a five-stage model of planned change. It introduces the idea of motivation and preparation for change during the first phase. These two steps could be compared to the "unfreezing" phase in the two previous models. This model includes diagnosis and planning as well as formulation of a strategy, proposing day-to-day tactics which require a very fine level of analysis and planning. Like the previous models, it proposes a plan of action to stabilize the change. An additional component is the recommendation for review and evaluation of the plan of action.

Marshall Clinard (1970) developed a model based on community development programs. It provides for the notion of self-analysis and self-help by internal groups at an early stage, locating and developing local leadership, obtaining legitimacy of the project from a wide base of community leaders and members, organizing for action, implementing the program and developing a new community self-image through the program. This model advocates early support from leaders and changing the nature and organization of the community as opposed to just changing individuals within the community.

The model proposed by Carey and Marsh (1980), and Carey (1978) includes six major stages. The first four stages duplicate other models, but Carey and Marsh's renewal stage is unique. This stage does not advocate refreezing, but rather, maintaining an openness that will allow for effects of new legislation, resources, and personnel. A second distinguishing feature of this model is the continuous evaluation and feedback used throughout all the phases to promote continuous evolution and a sense of self-direction within the organization.

These models have many common elements. The change planner needs to translate the general processes described here to the local situation. Hours of planning and collaboration are necessary to convert general models into a form appropriate for local situations.

Schaller's Model

Schaller's model (1972) contains many of the same processes found in other models. He described a seven stage model containing the following components: (a) discontent, (b) self-identified discrepancy, (c) the initiating group, (d) the supporting group, (e) implementation, (f) freezing the change, and (g) counter strategies. These stages are outlined in Table 1.

Discontent. Schaller believes that no planned change occurs without a level of organizational discontent. The stronger the discontent within individuals, and the larger the group of discontented persons, the easier change will be to plan and implement. Discontent can be heightened with careful planning, making conditions for change more positive. However, too much discontent can become counterproductive.

Self-identified discrepancy provides two beneficial forces for change. First, it helps build advocates among group members. Second, it helps group members understand the problem and the organization so they can become effective members of the change group. One danger in this phase is groups can often become blocked because there is no leadership to develop solutions to the problems. Care should be taken to channel the group's energy away from the problem itself, and toward a solution.

The initiating group. It is important to organize a group to skillfully diagnose problem situations and to develop change strategies and tactics. The focus of the strategies should be on both the organization and its membership. Before the initiating group is expanded to include larger support groups, an overall plan should be developed.

The supporting group creates a broad base of support for the planned change. Members of this group should engage in activities that build their sense of ownership of the change program. In this stage changes become modified and compromises will be made. Without such compromise and support, the initiating group will become isolated and the goals will be subverted by the larger group. Leadership from the supporting group should be encouraged. This enables the initiating group to either withdraw, or re-enter the larger supporting group in their normal roles; thus, a smooth transition will be facilitated.

Implementation. According to Schaller, the group implementing changes or new programs is not composed of the same individuals who intially planned and advocated the change. Planners and implementers often possess different skills. Different levels of support are needed during this stage. For example, resources often need to be increased at this point. Loyalty to the change is important. The larger supporting group must be as committed to the program and its success, as the initiating group.

Freezing the change. One needs to decide at this point if the change should be institutionalized. Some changes are, and should be, temporary, while others are intended to be permanent. Some resemble the initial plan, while others are totally different. Maintenance techniques should be developed. These could require legislation, persistent persuasion, additional resources or changes in the organization itself.

Counter strategy. Internally motivated change will meet resistance. Sometimes this resistance can be resolved through negotiation and compromise, and other times, it can only be resolved through the legal process or personnel changes. Those opposed to the changes will attack the credibility of the new program and its advocates. These setbacks are resolved best when they are anticipated and countered.

There are many similarities between Schaller's model and the other models described in this paper. Although these models appear simplistic, the process of change is difficult because of the interacting variables at each stage.

Using the Models

Although models are general and ambiguous, there is at least one underlying reason why they are useful. They help the planner grasp important relationships in a very complex organization through the process of miniaturization. Levi-Strauss (1966) explains their use:

> *To understand a real object in its totality, we always tend to work from its parts. The resistance it offers us is overcome by dividing it. Reduction in scale reverses this situation. Being smaller, the object as a whole seems to us quantitatively simplified. This quantitative transposition extends and diversifies our power over a thing, and by means of it the latter can be grasped, assessed, and apprehended at a glance.*

The change process is not linear although it often appears this way in models. By dividing the process into prescribed chronological stages, leaders can compare their situations to the model. Change can take three to four years (Schaller, 1972). Directing change efforts over a period of time becomes more managable when the process is divided, then assessed and explained at each stage. Models help leaders to generalize from specifics.

Change models applied to university and public school settings can be beneficial. There are many common goals

Table 1
Elements of the Change Process

Discontent	Self-Identified Discrepancy	The Initiating Group	The Supporting Group
1. Without discontent, no planned, internally motivated and directed intentional change.	1. Self-identified discrepancy increases level of discontent.	1. Number who complain about status quo greater than those willing to introduce change.	1. Form large support group
2. There must be more than one person discontented.	2. Group defines ideal and discovers difference between ideal and current affairs.	2. Develop strong, committed initiating group; team building.	2. Legitimatize proposed change
3. Risk that discontent can be counterproductive.	3. Risks: —process may become an end in itself —fail to see necessity for formulating an initiating group or building support group	3. Problem defined more sharply	3. Develop loyalty in support group/minimize loyalty conflicts
4. Mobilize support group or build organization.		4. Focus causing problem identified	4. Skill/expertise/dedication a. leadership b. law/legislation c. accounting d. communication e. coalitions f. compromise
5. Discontent must be channeled into problem solving process.		5. Strategy devised to change discrepancy a. Force field model b. Alternative strategies c. Costs; indirect and direct d. Motivation e. Plan to stabilize change f. Reentry problem	5. Build ownership for idea/change within support group
6. Arousing discontent must not be offensive.			6. Revise goals and process to include others: refine, compromise, share
7. Basic sources of discontent: (a) bad decision, (b) cause a malfunction, (c) provide a vision and model, (d) self-identified discrepancy.			7. Motivation of leadership
8. Need approval and participation of top echelon policymakers.			

across projects and many commonalities among organizations. Problems in the change process can be highlighted by carefully developing a model based on one setting and then subtracting the details unique to that situation.

A second reason for studying models of individual or organizational change is that it helps leaders understand the process and anticipate points of resistance and potential failure. These typically occur in the change process and should not cause disillusionment and feelings of failure. Many Teacher Corps directors have experienced the frustration of being a leader in a change process, and have discussed "lessons learned." The next step is to analyze these lessons learned using a model framework. One can then, identify strategies to overcome resistance at various stages. ■

References

Bennis, W.G. "Applying Behavioral Science for Organizational Change." In H.W. Peter (Ed.) *Comparative Theories of Social Change*. Ann Arbor: Foundation for Research on Human Behavior, 1966.

Carey, L.M. "Planning for College Participation in Inservice Education." In P.R. Walker (Ed.) *The Institutionalization of Inservice In Schools and Colleges of Education* , Washington: ERIC Clearinghouse on Teacher Education and Far West Teacher Corps Network, 1978.

Carey, L.M. & Marsh, D.D. *University Roles and Inservice Education: Planning for Change*. Washington: AACTE, 1980.

Clinard, M.D. *Slums and Community Development*. New York: The Free Press, 1970.

Esman, M.J. & Bruhns, F.C. "Institution Building in National Development: An Approach to Induced Social Change in Transitional Societies." In H.W. Peter (Ed.) *Comparative Theories of Social Change*. Ann Arbor: Foundation for Research on Human Behavior, 1966.

Galt, A.H. & Smith, L.J. *Models and the Study of Social Change*. New York: John Wiley & Sons, 1976.

Levi-Strauss, C. *The Savage Mind*. Chicago:The University of Chicago Press, 1966.

Lewin, K. "Frontiers in Group Dynamics". *Human Relations* , Vol. 1, 1947.

Lippitt, R., Watson, J., & Westley, B. *The Dynamics of Planned Change*. New York: Harcourt, Brace, Jovanovich, 1958.

McLeish, J. *The Theory of Social Change*. London: Routledge & Kegan Paul, 1969.

Schaller, L.E. *The Change Agent*. New York: Abingdon Press, 1972.

Seifert, H. & Clinebell, H.J. *Personal Growth and Social Change*. Philadelphia: Westminister Press, 1969.

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Table 1 (continued)

Implementation	Freezing the Change	Counter Strategy
1. Establish or create a group to carry on 2. Skills for advocating and implementing change differ 3. Obtain resouces a. implement ideas b. personnel c. goodwill d. loyalty support groups implement groups	1. Is it desirable to freeze the change? 2. How can a change be frozen? a. legislation b. reources c. persistence d. change values, direction, and orientation of organization 3. How can change be stabilized? a. research b. monitoring c. communication	1. Internally motivated change meets resistance 2. Lag exists between resistance and antichange strategies a. often resolved in legal system b. will attack motivation, reliability, credentials of advocates 3. Leadership should anticipate the future

Research Adaptation and Systematic Ad Hocism

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This paper describes Systematic Ad Hocism, the change strategy used by the University of New Hampshire-Portsmouth Teacher Corps project in adapting research findings to accomplish educational change. The paper also discusses how strategies for the adaptation of research emerged from the systematic ad hocism approach, and the project's successes and failures in achieving change.

Assumptions

The paradoxical concept of "systematic-ad-hocism" was developed by Miller and Wolf at the University of Massachusetts/Worcester Public Schools Teacher Corps project and articulated in their article, "Inservice Education and School Change" (1977) and by Brown (1978), "Systematic Ad Hocism: An Approach to Responsive In-Service Education and School Change." The concept of systematic ad hocism reflects a number of research-based assumptions about staff development, schools, and the nature of organizational and individual change. The first assumption derived from the CBAM (Hall et al., 1975) and I/D/E/A (Leiberman and Shiman, 1973) studies is that there is a necessary and interdependent relationship between teacher change and school change which justifies a concentration on individual teacher concerns as a first step in the change process. Teacher growth and school change occur most effectively and lastingly in a situation that mutually supports and encourages both individual and organizational change.

The second assumption is that change is best viewed in terms of development from individual to organizational concerns. The encouragement of dialogue among teachers who have taken individual actions leads to collaborative actions which provide a basis for organizational change and strengthens the individual teacher's sense of connectedness and importance to the organization. This process is developmental and cyclical.

A third assumption is a three-part view of staff development. Programs must be: (1) responsive to stated needs, (2) somehow involve both theory and practice, and (3) allow multiple entry and exit points for the teaching staff through and with multiple delivery systems.

Characteristics

There are four characteristics of systematic ad hocism: (1) having a map rather than an itinerary, (2) being long-range, (3) being adaptive, and (4) being value based.

Maps vs. Itineraries. Maps are conceptualizations, theories

about the way organizations work, the ways the individuals work within them, the ways in which systems connect to one another, and the changes sought. Itineraries are series of prescriptions for management or planning (Getzels, Lipham, and Campbell, 1968). The application of prescriptions and adherence to itineraries limit freedom of action and becomes immobilized by the inevitable unexpectedness of complex open systems. On the other hand, the map allows the traveler the flexibility of working out alternate routes in case events make the original plan unworkable. For example, an itinerary (prescription) is to "implement the ECRI reading system vs. the map (conceptualization of a goal) to improve reading instruction in the school. The former alternative locks the change attempt to a single alternative and freezes and staticizes the change process. The latter alternative allows for greater flexibility in designing or altering approaches to solving the problem over time.

Alternate Futures. The second attribute of systematic ad hocism is being long-range which means forecasting alternate futures. Generating alternate futures helps in better understanding the complexities of the system within which the change effort operates, in determining important decision points that will be reached in the future, and in choosing what may be unforeseeable and surprising alternatives in the future. Short-range planning, ad hocism, is much more systematic as a result of long-range forecasting and planning which provides a context for devising short-range solutions to complex problems as they emerge over time.

Adaptive Planning. The third element of systematic ad hocism is adaptive planning. Adaptive planning is both being adaptive to the kinds of decisions that are faced through forecasting alternate futures and challenging to people and situations in the environment of the school. Systematic ad hocism is the understanding of the difference between a passive response to the environment, one in which the staff simply adapts its behavior to the environment; and an active response, one in which the staff attempts to challenge the environment with choices that reflect the full intent of organizational issues.

Value Based. The final characteristic of systematic ad hocism is that it is value based. Project staff members are not neutral; they have convictions about education, schools, and change. The Teacher Corps project becomes the laboratory in which deeply held personal values about personal, institutional, and political change are tested, risks taken, and in which personal learning and growth take place. Staff meetings and retreats are more than an arena for theory and model building, long-range and adaptive planning—they become a place where staff can share and explore the learnings and growth that individual staff members are experiencing. This process is an essential element of systematic ad hocism because it enables staff members as a team and as individuals to have confidence in their ability to make informed choices in the complex system of a school.

Pervading the systematic ad hocism approach to change is a gradualist change strategy which is based on the motto, "aim high, score low, aim low, score high" (Smith and Keith, 1971). The strategy is based on doing one thing at a time and includes nine elements:

1. Amplifying the close: dealing with immediate and concrete concerns.
2. Phasing adjustments: taking small steps.
3. Phasing supranationality: allowing for the development of working subgroups.
4. "Stretch-out:" extending periods of adjustment as needed.
5. Multi-path approach: allowing for varied arrangements.
6. Locking in systems: preventing regression.
7. Provision for institutional spillover: letting authority develop beyond expectations.
8. Provision for acceleration: accommodating to greater demands and faster progress.
9. Cushioning: providing escape clauses for individuals who need them.

The main idea is to build on past strengths before moving into new areas and largescale change. The gradualist strategy involves: "(1) lower levels of uncertainty and unintended outcomes, (2) decreased time pressure, (3) an increased interval for major change, (4) limited decisions related to the changes, and (5) decreased demand on resources" (Smith and Keith, 1971).

Research Adaptation and Systematic Ad Hocism

Operating on the assumption that systematic ad hocism was the most appropriate strategy for adapting research findings, building a responsive staff development program, and accomplishing change, research adaptation in the University of New Hampshire-Portsmouth Teacher Corps project was designed to accommodate different learning styles and paces among teachers. A variety of options for adapting research through multi-path inservice education was developed. Options included formal university courses, after school released time programs, one-to-one and small group consultations, independent study, graduate research theses, visitations, professional conferences, team planning meetings, and support for teacher action research and pilot program proposals. Proposals for action research and pilot programs were supported by the project for materials, consultative services, publication, and dissemination. The project's approach to research adaptation was eclectic allowing for different levels of teacher interest, involvement, and commitment; dialectical in that the project staff's daily actions and involvements helped staff members in recasting their theory-in-practice mode of working; responsive to changing people and situations in the environment of the school; and challenging in that project staff actively dialogued with teachers to question practice and clarify issues.

The project's systematic ad hocism approach to change encompassed four strategies for facilitating the adaptation of research (Pine, 1979): linear systematic sustained adaptation, ad hoc school problem adaptation, case study process adaptation, and information inundation.

Linear Systematic and Sustained Adaptation is best represented in the work of Oja (1979), Webb (1979), and Pine (1979) who at the beginning of the project identified research findings in psychological education and counseling psychology and adapted these findings in a sustained and systematic way throughout the life of the project. The staff not only trained parents and teachers but challenged and involved them in a cycle of action and reflection. Oja's research (1978, 1979a, 1979b) documents this process in detail and delineates the continuing and cohesive nature of this adaptation strategy which she and her teacher research colleagues carry on today.

The Ad Hoc School Problem Adaptation (Pine, 1979) model exemplifies a problem-solving approach in which individual teachers defined practical problems and initiated their own research to address these problems. Action research projects were carried out by 14 teachers on a wide range of topics. The projects were not locked into any one methodology and included case studies, retrospective analyses, analytical studies, correlational studies, experimental designs, and descriptive investigations. The adaptation of specific research findings was an inherent element in the action research.

The Case Study Process Adaption approach (Pine, 1979) involved the use of case studies to document the adaptation process, to validate the use of specific research findings, to provide a compass for directing the application of research findings, and to develop increased capacities of analysis among parents, teachers, and project staff to make new

educational change actions and research adaptations possible.

Information Inundation (Pine, 1979) was developed and implemented as an adaptation strategy to draw into the project non-participating teachers. To facilitate research adaptation and to address teacher concerns among this group of teachers as well as to assist teachers already involved in the staff development, the project staff began to inundate teachers with research findings which were responsive to questions and concerns shared with project staff in the corridor, the teachers' room, the cafeteria, etc. The goals in using this approach were to "scratch and nick" the thinking of uninvolved teachers, to be responsive to all teachers, and to draw individual teachers and small groups of teachers into dialogue, reflection, questioning, and investigation of school problems so that a need for adapting research would emerge naturally.

Change: Successes and Failures

Four major "maps" for research adaptation and staff development were identified through a teacher designed and implemented needs assessment: psychological education and human relations, individualization, reading and writing, and mainstreaming and the exceptional child. *Change* in these major research adaptation thrusts is defined as *any planned or unplanned alteration in the status quo in an organism, situation, or process* (Lippitt, 1973).

Theoretically systematic ad hocism leads to discrete identifiable changes both planned and unplanned. The ad hoc problem-solving and adaptive nature of systematic ad hocism makes the measurement of change through traditional experimental design exceedingly difficult if not impossible. However, ad hoc change can be captured and portrayed through other research methodologies. Data documenting change generated through the University of New Hampshire-Portsmouth Teacher Corps project were collected from:

1. Parent documentation of behavioral and attitudinal changes of individual students as outcomes of the parent counselor aide program.
2. Independent observations of 23 teachers and their classrooms by undergraduate teacher education students seven months after the project terminated.
3. A follow-up study on 125 junior highschool students who had participated in a peer tutoring program.
4. Teacher journals maintained by 12 teachers throughout the life of the project.
5. Video tapes of teachers trying out innovations in their classrooms.
6. Follow-up individual interviews with 12 teachers who had been most actively involved in the project.
7. Action research studies and theses written by teachers.
8. A pre- and post-test study of the ego, moral and conceptual development of teachers participating in the psychological education thrust of the project.

Positive Findings

An analysis of the data indicate the following changes directly attributed to the project seven months after the University of New Hampshire-Portsmouth Teacher Corps project ended:

1. Nine teachers moved from an individualistic protective non-sharing mode of behavior to a sharing collaborative mode and formed a teacher support group which has met throughout the school year.
2. The Junior High School is organized into a schools-within-a-school program. One of the schools adapted, implemented, and continues a classroom behavioral management system in all its classrooms.
3. Prior to the advent of the project there was minimal receptivity to having undergraduate and graduate teacher education students in the school. Following termination of the project 23 teachers have opened their classrooms to University of New Hampshire teacher education students for internship and observational experiences. Many of the teachers participate on a regular basis as visiting lecturers in a seminar offered onsite for preservice students.
4. The majority of teachers have changed their attitudes about heterogeneous grouping moving from a negative resistant posture to a more positive supportive position.
5. Of the 12 teachers who were most actively involved in the project:
   - Individualization has been implemented and continues as the primary instructional mode in eight classrooms.
   - Two teachers have reorganized their classrooms and team teach exchanging students, resources, and themselves. Their classrooms are characterized by individual learning stations, small group instruction, individual tutoring, peer tutoring, physical reconfiguration of classroom space, and a variety of curriculum innovations and developments.
   - Six teachers have incorporated moral dilemmas into their curriculums.
   - Two teachers have incorporated the use of student journals to promote student self-awareness and writing.
   - One teacher has designed and tests our simulations to promote moral development of junior high school students.
   - 12 teachers have designed and incorporated learning centers into their classrooms.
6. A mathematics peer tutoring program has been exported and installed in the high school. Follow-up data indicate that students in five junior high school classrooms participating in the peer tutoring program have changed their attitudes about themselves, teaching, learning, peer relationships, and the subject of mathematics.
7. The special education classroom has been changed into a resource room characterized by individualized instruction; redesign of space; installation of learning centers, lofts, and vocational education stations; a behavioral management program; and a change in instructional and program philosophy and attitudes.
8. Through the parent counselor aide program important behavioral changes have occurred in the lives of troubled students—changes so critical that they have made a difference between students staying in school or leaving, between academic success or failure, between coping with awesome burdens or breaking down, and between active survival or regression to deeper levels of inadequacy, depression, and withdrawal.
9. Fourteen teachers successfully completed action research projects which helped them to see themselves as theory builders and testers.

In summary, documented micro and intermediate change emanating from the University of New Hampshire-Portsmouth Teacher Corps project can be found several months after the termination of the project among individual classroom teachers and groups of children in the junior high school particularly in the psychological education and human relations and the individualization adaptation thrusts.

Negative Findings

An analysis of the data also indicates a number of project failures. No demonstrable change occurred on a programmatic basis in the adaptation thrusts of reading and writing and mainstreaming and the exceptional child. The project encountered resistance to a parent reading tutorial program

and in spite of mounting a critical mass of human and material resources failed to implement a priority program. The project did not succeed in bringing together the Pupil Personnel Team and its members continue to function in an isolated, fragmented, and overlapping way minimizing their potential contributions to the lives and learning of students. Out of 25 teachers the project failed to engage and involve a group of eleven teachers and secured peripheral involvement from 13 teachers. The community council and the multicultural components of the program achieved small successes but by and large the changes were inconsequential. The project had little if any impact on the Education Department of the University. While the project management style allowed individual staff members real freedom to generate programs and activities that were interesting and meaningful the style cut both ways in that there seemed to be a loss of common identity and shared goals and activities. Collaboration was not achieved. Finally, in terms of overall organizational impact and change in the school the project was not successful.

The project was successful in achieving micro and intermediate changes but failed to accomplish macro change and change in two of four major research adaptation thrusts. Reflection on the successes and failures of the project to accomplish change has led to some provocative speculations about the ideologies of change theory which are reported in another paper (Pine, 1980). Questions about change theory suggest that many assumptions and principles are more ideological than scientifically valid.

■

References

Brown, C.E. *Systematic Ad Hocism: An Approach to Responsive Inservice Education and School Change*. Durham, NH: University of New Hampshire-Portsmouth Teacher Corps Project, 1978.

Getzels, J., Lipham, J. and Campbell, R. *Educational Administration as a Social Process*. New York: Harper and Row, 1968.

Hall, G. "The Effects of Change on Teachers and Professors —Theory, Research, and Implications for Decision Makers." Austin, Texas: Research and Development Center for Teacher Education, University of Texas, 1975.

Hall, G., Loucks, S., Rutherford, W. and Newlove, B. "Levels of Use of Innovation: A Framework for Analyzing Innovation Adoption." *Journal of Teacher Education*, 1975.

Leiberman, A. and Shiman, D. "The Stages of Change in Elementary School Settings." In C. Culver and G. Hoban (Eds.), *The Power to Change*. New York: McGraw-Hill Book Co., 1973.

Lippitt, G. *Visualizing Changes: Model Building and the Change Process*. Fairfax, VA: NTL Learning Resources Corporation, 1973.

Oja, S.N. *Deliberate Psychological Education: Initial Products, Vol. 1*. Durham, NH: University of New Hampshire Teacher Corps Publication, 1978.

Oja, S.N. "Deliberate Psychological Education and Its Impact on Teachers and Students in a Junior High School," *The Humanist Educator*, 18, 2, December, 1979.

Oja, S.N. "Adapting Research Findings in Psychological Education: A Case Study." Chapter 6 in Morris, L. et al., *Adapting Educational Research: Staff Development Approaches*. Norman, OK: Teacher Corps Research Adaptation Cluster, 1979.

Paul, D.A. "Change Processes at the Elementary, Secondary, and Post Secondary Levels of Education," Chapter 1 in Nash, N. and Culbertson, J., *Linking Processes in Educational Improvement*. Columbus, OH: University Council for Educational Administration, 1977.

Pine, G.J. "Teacher Adaptation of Research Findings Through Inservice Education," Chapter 2 in Morris, L, et al., *Adapting Educational Research: Staff Development Approaches*. Norman, OK: Teacher Corps Research Adaptation Cluster, 1979.

Pine, G.J. "Humanizing Education Through Counseling: The Research Findings," *The Humanist Educator*, 18, 2, December, 1979.

Pine, G.J. "The Certainty of Change Theory: An Analysis of Change Ideologies." Paper presented at the Teacher Corps Research Adaptation Cluster Conference on Change, Boston, Massachusetts, April, 1980.

Smith, A. *The Concept of Social Change*. Boston: Routledge and Kegan, P., 1973.

Smith, L. and Keith, P. *Anatomy of an Educational Innovation*. New York: John Wiley & Sons, 1971.

Webb, D. "Paraprofessionals as Counselor-Tutors. A New Model for Conseling in the Junior High School," *The Humanist Educator*, 18, 2, December, 1979.

Wolf, T. and Miller, L. "Inservice Education and School Change," in Massey, S. and Henderson, R. *Iambic Inservice*. New England Teacher Corps, 1977.

Section II Change: Case Studies

Papers included in this section present five case studies and their perspectives of change processes. The environmental context described in each paper suggests that the process of change is greatly influenced by situational factors.

Quirk illustrates a project wherein conflicts between goals and means can be a major obstruction to change. He also asserts that programming and adapting both have their place in project management and should be applied at appropriate times.

Roper and Jung report on a project which pursued its mission in the face of strong negative external forces. In spite of two unfulfilled requisites identified by the Rand studies, project staff were able to make good use of other principles of change advocated in the literature.

Mann (1978) has said that in the Rand studies, no high school was changed. Peterson and Pullman describe a project which "dreamed the impossible dream." Efforts at the Youngstown project showed results where students achieved reading improvement in a secondary school but failed to change the teachers.

A project which worked in a setting quite different from the others in this section was the Oakland University/Farmington Public Schools project. Lougheed addresses Berman's situational parameters of implementation in a university collaborating with agencies for troubled youth.

Bullock also uses Berman's ideas on situational parameters —*scope of change, certainty of technology or theory, conflict over goals and means, structure of institutional setting, and stability of environment*—to describe and compare a project's efforts. The project development stage was accomplished primarily through the adaptive process, while the implementation phase involved a combination of the adaptive and programmed processes.

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A Study in Goals/Means Conflict Resolution

BY WILLIAM M. QUIRK
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There is no universally best way to implement policy. Either programmed or adaptive implementation can be effective if applied to the appropriate policy situation, but a mismatch between approach and situation aggravates the very implementation problems these approaches seek to overcome.

(Berman, 1980)

This paper presents a retrospective analysis of a project using the frames of reference and analytical factors suggested by Berman (1980), Mann (1978), and McLaughlin and Marsh (1978).

Berman characterizes projects as either adaptive or programmed, and suggests that in reality most projects lie somewhere between. Ours was a mixed strategy project.

The literature on planned change stresses the importance of a high level of felt need for change among a critical mass of the target population and the supporting organizational structure. The institutional setting in this case was one in which a small group of persons operated independently of the critical mass in attempting to solve their problems.

The Institution of Higher Education

The university has about 5,000 students enrolled. Nearly 90 percent of the graduate students are teachers or other education-related personnel. Historically, it has been the state's major producer of certificated educational personnel. The state funding formula has forced it to explore alternative funding sources in order to remain active in the development of new programs and services to local education agencies. The university staff has demonstrated competence in gaining funding for projects such as 6th, 8th, and 10th cycle Teacher Corps.

The Local Education Agency

The school district has approximately 20,000 people with six elementary schools, one middle school and one high school. The target school has a multicultural student population—the majority of whom come from low income minority families.

The Mexican-American community has two separate subpopulations: long-time residents (three to six generations) who have worked in local agriculture and with the railroad, and those who have recently entered the community to work in beef packing and other light industry. The new arrivals are perceived by the established Mexican-American community as bringing in new and different values. In addition, many of the children of the new arrivals have little command of the English language.

Project Proposal Development

The initial proposal plans included a problem-solving orientation involving key staff. While conventional data gathering techniques were used to determine staff development needs, the proposal included few responses and perceived needs of the staff. Project implementation problems may be viewed as a result of the staff's lack of input and sense of ownership in the proposal process. The problems were as follows:

1. Teachers described the school climate as consisting of negative staff attitudes, low morale, and lacking a sense of direction. The teacher turnover rate averaged nearly 50 percent over a three-year timespan. Pupils were described as not motivated to learn and the school program as not meeting the special needs of the students.
2. Shortly after funding of the proposal both the school principal and project director resigned.
3. The new principal and teachers were in conflict with the interns because of comments interns made to community members.
4. Teachers were dissatisfied with the staff development program because they did not view it as responsive to their needs.
5. The university faculty working with the project were not familiar with Teacher Corps and had difficulty working with both teachers and interns.
6. The interns staged a "walkout" as a result of one intern's confrontation with a teacher.

After intervention by the Board of Education, a special committee was appointed to resolve the above problems. A needs assessment covering both curriculum content and process factors was implemented resulting in an adaptive staff development process and change in project leadership.

The new director and a faculty colleague undertook a three-phase needs assessment. Through a questionnaire, teachers were asked to express their ideas concerning both the school and the community. The data resulted in a matrix of items of low interest—low achievement, high interest—low achievement, low interest—high achievement, and high interest—high achievement. Only those items in which teachers expressed a high interest and felt that achievement was low were selected for the next phase which consisted of structured interviews with students, teachers, the principal, and central office personnel, along with a questionnaire to parents to establish goals and means.

Consensus Building

Goals and Means

The primary content for staff development included reading and organizational process goals. The general feedback to this proposal was one of agreement with over 90 percent of the faculty agreeing to the goals and means. The principal was in strong support but had personal reservations about the role of a steering committee. In addition, the interns' degree and certification programs were reassessed and redesigned.

Project continuation was discussed at the Board meeting with all faculty, the principal, and several parents in attendance. The Board expressed the opinion that the project had been nothing but trouble. However, returning teachers and the principal supported project continuation based on the new goals and means. Finally, the Board voted six to one in favor of continuation.

Planning for Year Two

Second year planning was implemented during the summer with the inclusion of the principal and two key teachers as part of the planning team. The intent and ultimate effect was to clarify the agreed upon goals and the techniques that would be used during second year implementation.

McLaughlin and Marsh (1978) point out that conceptual clarity and programmatic specificity enhance the success potential. During this planning, a shift from a very adaptive approach to a more programmed approach, as described by Berman (1980), allowed the project to implement change.

The attitude of the principal was perceived as being crucial to project success. From the beginning he blocked outside interference in the school, bringing teachers into a close knit team to resist change.

The principal's inclusion as a key person in the summer planning process ensured his agreement on all goals and

means strategies developed. It was during this summer that a very close working relationship was established between the director and the principal.

The cohesiveness that had developed during year one to resist the project enhanced it during year two. The teacher participation in goal setting had been a step in this direction. With the aid of the principal, the two key teachers and the team leaders, plans were devised to open the school environment.

Following a faculty exploration of a number of possible approaches to reading improvement, the Wisconsin Design was selected. A faculty member from the university who had experience with the design and a history of successful work in staff development was selected to conduct the training. He then participated in all further planning for the reading program.

During the summer there was a turnover of approximately one-third of the teachers. New teachers who were hired were interviewed and recommended by the principal. As part of the interview he was carefully screening for agreement with second year goals and means as established by the needs assessment and consensus building process.

Reentry

The three-day August staff development was considered crucial to project success. Plans made during the summer were presented to the teachers and agreement on final plans was unanimous. A problem-solving thrust was also presented which enlisted teachers as co-planners of all staff development.

The interns participated in staff development as any first year teacher would. Project staff attempted to establish in the minds of the faculty that, in essence, the interns were first year teachers and were expected to conduct themselves as such. This frame of reference was to prove beneficial upon numerous occasions.

The university faculty member who conducted the reading program during both the fall and spring semesters enlisted the teachers' aid as co-problem solvers in the implementation of the new materials. As teachers encountered problems, groups of teachers began to work together to solve them. Numerous solutions were arrived at and successfully implemented by teachers who had rejected earlier attempts.

Whenever teachers encountered problems with any aspect of the agreed upon change program, project personnel were ready to respond. At times the requests seemed trivial but, following year one conflicts, the director felt it was essential to respond. By engaging in problem-solving *with* the faculty, not *for* the faculty, all obstacles were overcome in one way or another. Whenever possible, interns' services were used as part of the problem solution. The support role that was accepted by project staff members was essential to implementation efforts. They felt that a staff development program without the corresponding support services would have been much less successful.

The interns, for the first time, became part of the faculty. The expectation that interns would conduct themselves as teachers proved more difficult than was anticipated. The faculty were tolerant and frequently entered into problem-solving with the interns. Faculty assessment at the end of the fall semester rated the interns as having done 'A' or 'B' work on a graduate level.

The spring semester proved easier for the interns. Either they were adjusting to the teacher role or faculty were more tolerant. At the close of the spring semester all interns were evaluated positively by the faculty.

The commitment and involvement of the principal remained high during the entire school year. His inclusion as a staff member in all project decision-making ensured the commitment to continuance. His role as leader of the faculty was continually reinforced. The project/school interface was through the principal with the support of project personnel when requested. This ensured that he was the person up front and getting the needed recognition.

As the school year progressed, the principal became increasingly concerned with school climate and various faculty attitudinal factors. The cooperation and continual planning between the principal and the project staff enabled the project to function more effectively.

During year one the faculty was molded into a very cohesive unit with the single goal of resisting change. The problem during year two was coopting this team to project goals.

Institutionalization

Teachers and the principal were concerned that some project activities should continue even though the project would cease at the end of the second year. Primary activities sought for continuation were the reading program, the use of teacher aides, and the parent resource center. University project personnel worked with the teachers to plan for the continuation of these three thrusts, while the district planned to provide the funds needed. This was done by reallocating resources within the school budget.

The Year After

By the next year, teachers trained by Teacher Corps were providing staff development activities in reading for other teachers. In addition, one teacher attended summer school, studying a facet of the Wisconsin Design not yet implemented at the school.

The school climate is now one of teaming for the common good. The teachers' lounge is a place where teachers meet for problem-solving and discussion of staff development activities.

Change

Beginning March 1979, the district scheduled three, one-half days for the purpose of parent-teacher conferences. In spite of a history of poor attendance at similar school events, conferences during the spring of 1979 showed an average of 87 percent of parents in attendance. Community attitudinal change was also evident in letters published by the local newspaper.

The California Achievement Test (CAT) was the primary cognitive evaluation instrument used by the project. A project goal was to see the mean cognitive student growth equal or exceed the actual time elapsed, using the total test score for analysis (the standard error of measurement for the CAT total test score is approximately 0.2 grade equivalent units).

Only one class demonstrated a growth less than that of the actual time elapsed but was still within the standard error of measurement of the test. Three classes demonstrated growth exceeding the elapsed time by greater than one standard error of measurement on the total test.

The kindergarten results indicate that children, on the average, entered school with below average achievement scores. At the end of the school year, this same group of children scored slightly above average (56th percentile), with respect to the national norm.

Change was initiated when teachers were involved in project adaptation. This change could not and would not have occurred without a supportive organizational climate. The strategy of including the principal as a leader in initiating change with the building faculty, through research-based problem-solving, appears to have been crucial. ■

References

Berman, P. "Thinking About Implementation Design: Matching Strategies to Situations." In D. Mann and H. Ingram (Eds.), *Why Policies Succeed and Fail*. Beverly Hills, CA: Sage, 1980.

Mann, D. (Ed.) *The Politics of Training Teachers in the Schools*. Columbia University: Teachers' College Press, 1978.

McLaughlin, M.W. & Marsh, D.D. "Staff Development and School Change." *Teachers College Record*, September, 1978.

Initiating Staff Development Under Fire: A Project Learns to Adapt

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Teachers committed to stamping out staff development have been known to say, "we've tried that and it didn't work;" "we became obsessed by the really significant aspects of the program like parking, coffee and room temperature;" and, "society is lucky we'll even work with today's impossible kids without folks expecting us to participate in staff development activities, too."

We were all too familiar with these refrains as we worked in four low-income schools (K-12) through the Stanford/San Jose Unified Teacher Corps project. We couldn't blame teachers for not welcoming us with open arms; they were enduring a salary freeze, larger class size and fewer teacher aides. In the wake of Proposition 13, they were facing massive layoffs and a disputed contract. Many teachers reacted to these pressures with a range of emotions from anger to despair, manifested by an official slowdown and threats of a strike.

A central task of our project was to initiate staff development in schools which appeared downright hostile to such programs. Recent research suggests that attempting change in this kind of school environment is a losing battle. Rand (1975), for example, identifies a "healthy organizational climate" and "motivated participants" as essential preconditions at the school for a successful change agent project. A secondary analysis of this data (McLaughlin, 1978) concludes that successful innovation is most likely when the project sponsoring the staff development and the schools receiving it "mutually adapt" to each others' agendas. What does mutual adaptation mean? It is clear that for a change agent project to be successful, schools must at least partially accept and concentrate resources on some of the project goals. Indeed "success" usually means that schools have implemented changes espoused by the project.

What is not clear is how a project should adapt to schools. The term "mutual" implies that both the change agents and the school's staff should adjust to one another. That is, the behavior of both groups is supposed to change. But, how does a project adapt to schools? In what ways should change agents behave?

This paper describes specific strategies employed in a Teacher Corps project to achieve mutual adaptation in schools initially resistant to the project. We hope it will provide guidelines to other change projects in similar situations. The central questions of our paper are:

1. Can mutual adaptation occur in school environments lacking the preconditions of motiviated participants and a healthy organizational climate? and
2. What are some specific strategies a project can implement to achieve mutual adaptation?

On the basis of our first year's experience with Teacher Corps, we believe the answer to the first question is "yes." Staff development educators do not have to resign themselves to working in schools where they are needed least–that is in schools which have healthy organizational climates and motivated participants. But to reach mutual adaptation in schools without these characteristics requires a very different relationship between the recipients and providers of staff development education.

One key factor for us was learning that practitioners were our colleagues, not our clients. To build an environment of give-and-take essential to collegial relatioships, we had to (1) pay attention to changing needs in the schools, (2) build trust and credibility, (3) balance short-term and long -term goals, (4) increase the decision making power of practitioners, and (5) learn to be patient. This paper describes our efforts in each of these areas.

Pay Attention to Changing Needs at the School

School people are overburdened with long, cumbersome needs assessments. Almost every categorical program requires a formal needs assessment that is usually out of date by the time it is submitted. With rapidly changing mandates from the federal, state and district level and high turnover of both teachers and students in inner-city schools, a one -shot, formal and complicated needs assessment does not make sense. We had to develop a variety of other ways to keep abreast of a staggering array of constantly changing needs.

One strategy was to require every project staff member to complete a one page "Visitation Form" immediately after a contact at the school. The who, what, when, where and whys on the forms were transferred to a card catalogue we labeled the "Concern File." This file was cross-referenced by school and subject area. Stanford people reviewed this file periodically before visiting schools and read it carefully before writing their plans for our second year. As a double check to the "Concern File," we paid teachers and community members a small consultant fee to read and revise sections of our second year proposal. They shared their reactions with Stanford teams in small group meetings. The result was a proposal reflecting the most up-to-date account of school concerns that could be obtained.

Build Trust and Credibility

School people do not want their students used as guinea pigs for some professor's experiment. They often fear that research means having their problems held up as dirty laundry for the rest of the world to see. University professors, especially in a place as research-oriented as Stanford, are generally viewed by teachers as living in an unreal world of computers, statistics, and self-motivated students. A major priority of our project, then, was to build trust and credibility. The general strategies that seemed to work best were: carefully selecting personnel; completely familiarizing ourselves with each school; demonstrating our ability to deal with the concrete realities of the classroom teachers; maintaining high visibility at the schools; and gaining the support of administrators.

The university personnel who worked most closely with the schools were graduate assistants in various component areas of the Teacher Corps project (i.e., reading, writing, math, P.E., social studies, bilingual education, multicultural education, discipline and administration). Each graduate assistant worked under the direction of a Stanford faculty member. Since graduate assistants were the key link between the Stanford and school faculties, they had to be selected with care. A requirement for the position was previous teaching or administrative experience not in an elite, suburban school but in an urban environment. Once

teachers saw that these "academics" had a practical understanding of their situation, they were more open to exchanging ideas with them and with their Stanford faculty advisors.

Building credibility also requires gaining a working knowledge of how each school operates. This means more than learning the statistics on enrollment, test scores and absence rates. We had to learn about the informal groupings and power structure in the schools. This meant sitting in on faculty and departmental or "pod" meetings, and listening to a wide array of teachers, administrators, students and parents. In this way, we identified key people at each school who were most knowledgeable about how the school really operated.

As well as learning about each project school, Teacher Corps people from Stanford had to show that they could deal with life in the classroom. Graduate assistants and Stanford faculty introduced new curriculum materials in the classroom, tested students, and occasionally took over classrooms to free teachers for staff development education. One of our graduate assistants counseled students referred to the principal for behavior problems. When teachers saw that he was effective in improving the behavior of these youngsters, his credibility soared. By the end of the year, he had organized a committee of teachers and students who totally revamped the discipline policy of the school.

A large part of trust building is simply to be there. By assisting in classroom activities, eating lunch with faculty members, participating in staff meetings, attending student activities, and even lifting a few beers with the Friday afternoon TGIFers, we attempted to become a welcome part of the school landscape.

In retrospect, the seed for a number of our staff development activities sprang from these spontaneous encounters. For example, during a chat in the high school faculty lounge, we learned from a few reading teachers of their anxiety about proficiency tests for graduation. Our reading team immediately did a content analysis of student performance on the test. Within a few days, they provided reading teachers with a list of test items most frequently missed by their students and suggestions for raising test scores.

All these efforts to build trust and credibility with teachers would have been futile without the support of the principal. The principal is the school "gatekeeper" of educational reform (Mann, 1978). The principal can identify teachers who will be interested in various parts of the project. The principal also provides recognition to those who participate in "extra" activities such as staff development planning and training. We, therefore, met frequently with school administrators. Administrators rewarded our efforts by supporting the project through attending staff development sessions, introducing us to teachers who were interested in working with us and publicizing our work through their faculty meetings.

Balancing Short-Term and Long-Term Goals

To gain the support of university faculty, a staff development program must allow researchers to develop a continuing relationship with school people in order to collect data over time. To gain the support of school staffs, teachers need to see results without waiting months or even years. There is a built-in tension between university professors committed to long-term research and practitioners facing daily crises.

The best solution for balancing long-term goals with short-term needs is to negotiate. The university faculty agrees to help fulfill some short-term goals in exchange for the promise to conduct studies. We have found that it is best to let school people know the specific terms of the exchange agreement. We advocate that agreements between university and school personnel be written in minutes of their meeting so that each has a clear idea of what is expected. We suggest that both parties read over and revise these minutes into a blueprint for future activities.

Before teachers agree to cooperate in a research study, university staff may have to help accomplish short-term goals. Those activities which address an important need and are highly visible recruited converts to the project. For example, Teacher Corps involvement in developing a slide/tape show to orient new students and parents to one of our project schools was instrumental in winning the support of school people.

Increase the Decision-Making-Power of Clients

In our project, teachers decided *if* they needed staff development, the *type* of training, and the *times* it would be offered. Teachers helped formulate the staff development agenda in three ways: (1) by informally voicing their concerns to project people, (2) by revising the project proposal, and (3) through their representatives on the School Steering Committee. The School Steering Committee was composed of representatives from each project school who met at least once a month. They were responsible for approving expenditures for teacher staff development stipends and instructional materials. Control over the budget is a necessary condition for real decision-making power.

A less formal but effective way to increase the decision-making power of clients is to identify the leaders in the school and elicit their input in the planning stages of the staff development program. For example, in the writing component the graduate assistant interviewed department chairpersons and other teacher leaders to ascertain the different types of writing teachers required and their assessment of the writing level of students. Bridging the gap between teacher demands and student skills became the theme of a two-year program in cooperation with the Bay Area Writing Project. The core of participants in this on-going staff development activity were those teachers and their recruits whose interview responses shaped the program.

Learning to be Patient

Of all the lessons we learned in our first year, learning to be patient was perhaps the most difficult. In the beginning stages of the project, it was not uncommon for teachers to break appointments at the last minute, to arrive at a workshop explaining that they had to leave in ten minutes, or to politely request that we stop pestering them. Because the project staff and university people had to drive over half an hour to our schools, these behaviors were particularly disheartening. In one school, we were pretty much ignored for several months.

Patience also dictated that we start small. Taking advice from Mann (1978), our aim was to gain the acceptance of a "critical mass" of teachers at each school. Mann defines a critical mass as approximately one quarter of a school staff. This modest expectation allowed frequent meetings with many individual teachers and small groups over the course of the year. Each of our teams began their efforts by contacting one or two teachers whom the principal or colleagues had identified as potentially interested in project activities. Sometimes, two or three meetings with these individuals were necessary before we could suggest that other teachers might want to join us. Other times, a teacher would ask us to come back the following week when they would arrange to invite their colleagues. These key individuals were much more successful in recruiting other teachers than we were. When they began a meeting saying, "These people can help us," the battle was more than half over.

Negativism flourishes in large groups. When the same topic was presented in a large faculty meeting and in a small informal group, the topic would be greeted with silence in the large meeting, but spark lively discussion in the smaller group. We learned to approach large groups of teachers only

when we had established our cadre of support.

For the better part of our first year, we were unsuccessful in building a cadre at one of the project schools. When this school's staff repeatedly refused to participate in project activities, we simply waited. It took several months before they made a tentative request for a workshop to improve writing skills. They were pleased with the workshop. They soon requested assistance in other areas including reading and multicultural education. We are convinced that a more aggressive approach at this school would have resulted in the staff severing ties with our project. The payoff for patience today is a strong cadre of teachers who are enthusiastic supporters of Teacher Corps.

Our experience in the four downtown San Jose schools demonstrates that staff development educators can do more than continue to preach to the already converted. It is possible to conduct staff development in environments that are initially hostile but only if the traditional concept of inservice education is radically changed. The one-day workshop where an expert provides "answers" to a group of strangers will not work. The strategies described in this paper make concrete the broad concept of "mutual adaptation." We found that when a project staff modifies its goals to meet the needs of practitioners, they in turn will support the research and staff development goals of the project.

Epilogue

Most of us pronounce a conference successful if you learn one new idea. After attending the Research Adaptation Cluster Conference on Change, we have modified our criterion. A really good conference is one in which old ideas are changed. In an attempt to re-examine some of our "old ideas" in this paper and to share with the reader the genuine intellectual excitement at this conference, we are adding this epilogue.

Our ideas were revised, expanded and hopefully improved in three areas: (1) ownership vs. the political process, (2) the importance of identifying adaptive strategies within a clearly defined model of the change process, and (3) the uniqueness of Teacher Corps' definition of the change agent.

Ownership Vs. the Political Process

In listening to Gerald Pine's excellent paper, "Certainty of Change Theory: An Analysis of Experience and Ideology" (1980), it was reinforcing to hear that, "the clash of values which is so closely present in site resistance to change is the *clash of legitimately different interests*" (emphasis ours). We concurred with this statement in our description of the "built-in tension" between professors wanting to conduct long-term research studies and teachers needing immediate answers to daily crises. But in writing our paper, we felt some ambivalence about recommending hard-nosed negotiation to resolve this tension rather than the more commonly accepted strategy of encouraging "ownership."

Because of the initial resistance of post Proposition 13 schools, it seemed an impossible task to convince teachers that they should become enthusiastic participants in the university's research agenda. The most we could do was to negotiate an exchange between the school and university faculties. Teachers, for example, agreed to provide students for pretesting a new bilingual test in exchange for the professor locating needed curriculum materials in Spanish. We hoped, and still do, that eventually teachers will become as interested in the improved test as in the curriculum materials. But we cannot delude ourselves that teachers will feel much of a sense of ownership over these tests (even though they helped revise them), or other research activities of the project and perhaps this is as it should be. For as Pine candidly remarks, "ownership is used to seduce people psychologically to buy into a change which never emanated from them in the first place."

So as we proceed with the overtly political process of hammering out agreements between university and school people, we are heartened by Pine's analysis that, "the ideology of ownership more often expresses what we wish were true and... deflects attention away from the possibility that power and political processes are legitimate, appropriate, and effective tools for bringing about change."

Adaptive Strategies Within the Change Process

We need to examine how adaptive strategies vary as we move through different stages of the change process. In our paper we focused on project staff and university faculty behavior in the first stage of change—the planning and/or initiating stage. In the implementation, institutionalization, adoption and dissemination phases of the project, these strategies will change.

Teacher Corps projects could profitably share with one another and the larger staff development community by analyzing the different types of strategies which work and do not work at different stages of the change process. As Lou Carey points out in her paper on change models, "steering change efforts over a long period of time become comprehensible when the process is divided, explained at each stage, and success or failure assessed on smaller portions of the total plan."

Who is the Change Agent in Teacher Corps?

In our paper, we discussed the behavior of project participants from the university in their role as change agents. Our section on building trust and credibility was primarily addressed to an IHE audience. But it is important to remember that in Teacher Corps, university, school and community people are change agents for one another. As the university works in schools, professors gain knowledge of today's classrooms which they will use in improving their teacher preparation programs. At the same time, the professor is changing the classroom teacher by introducing new methods of instruction, student assessment, curriculum, and most important, new ways of thinking about learning and teaching. In summary, change is *mutual*.

The process of reciprocal change is no less apparent in the interaction between the community and school participants in Teacher Corps. When a community council invites a school principal to their meeting to discuss reducing absenteeism, raising teacher expectations, improving parent involvement or a host of other issues of mutual concern, who is being changed? The answer, of course, is that if the dialogue is a good one both the community and the school administrator learn and change.

It seems to us a unique feature of Teacher Corps that the three main actors on the educational stage—the schools, the community and the university, try to change one another and in the process change themselves. It is clearly the most ambitious attempt to expand the notion of collegiality to embrace the entire educational scene. It is also at times confusing to those outside of the Teacher Corps "family." If the experiences Teacher Corps projects are to be successfully disseminated, we will have to carefully explain that change does not occur in one direction, between providers and recipients. In Teacher Corps we are all one another's change agents. ■

References

Mann, D. "The Politics of Training Teachers in Schools" in *Making Change Happen*, (Ed.) Dale Mann, N.Y.: Teachers College Press, 1978.

McLaughlin, M. "Implementation is Mutual Adaptation. Change in Classroom Organizations" in *Making Change Happen?*, (Ed.) Dale Mann, N.Y.: Teachers College Press, 1978.

Pine, G. "The Certainty of Change Theory: An Analysis of Change

Ideologies." Paper presented at the Teacher Corps Research Adaptation Cluster Conference on Change, Boston, Massachusetts, April, 1980.

Rand, *Federal Programs Supporting Educational Change, Vol. IV , "* Findings in Review," (prepared by Paul Berman and Edward Pauly) April, 1975.

Change at the Secondary School: The Center for Extended Learning

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One of the difficulties of change is that there are no standardized goals nor means for accomplishing goals. In order to diagnose the "ills" of today's education system, the goals and purposes of the system must first be identified and agreed upon. That very task is preventing education and educators from delivering quality/uniform education. In short, there is no agreement on what the mission of public education should be beyond the basic skills.

When Sputnik I was sent aloft in 1957, critics of education blamed the Deweyites for an education system that failed to influence its students to become well-disciplined scientists. Instead, they claimed, we were heavily involved in a progressive education movement,—"Do your own thing."

Admiral Rickover from time to time has attacked American public education stating a child's school day was mostly absorbed by "frill" subjects, totally unrelated to the basic skills so important to American society.

From the Woods Hole Conference, 1959, Jerome Bruner introduced "The Structure of Discipline." He said each subject had a unique way of asking questions and finding answers, and that this "structure" was what students should learn. As such, he reinforced Deweyism with a new term — inductive reasoning.

Since then, educators like Goodman, Holt, Tyler, Taba, Friedenberg, Henry, Rogers, Glasser, Allen, Illich, and others have all emerged with a model and/or program to cure the ills of an ill-fated educational system struggling for identity.

Fifty to sixty years ago educational programs for rural youth were community controlled to meet societal needs. There was no need to provide a broad educational program since the vast majority of these youngsters would never venture beyond 50 to 100 miles of their birth place. Times have changed, society is mobile, knowledge has grown geometrically and educators are more concerned about the mission of public education.

Though globally undefined, the areas of basic skills necessary for adult survival have been identified. It is also recognized that youth of today must be trained to cope with a totally different society of tomorrow. Conflict usually comes when educators attempt to expand an educational curriculum beyond the current program.

Tanner and Tanner (1975) noted,

> *Efforts to induce change in educational practice tend to be undertaken as expedient and opportunistic responses to the dominant sociopolitical forces rather than stemming from a rationale based upon sound theory and conceptual research.....curricula reforms often are promoted as consensual reactions to emerging crisis.*

It is ironic that in 1902 Dewey identified the fundamental factors in the education process as the learner, society, and organized subject matter. He warned us of a tendency to insist upon one at the expense of another, and eventual conflict. Tyler expands the fundamental factors to include knowledge and goes on to say that in the absence of a guiding philosophy (goal), the curriculum tends to be a product of ad hoc decisions — typically stemming from a combination of traditional practices and more immediate expediencies (Tanner & Tanner, 1975).

When mere lip service is given to the school's statement of philosophy and goals, the school becomes vulnerable to all sorts of whims and doctrines.

> *The purpose of education is not to fit the individual for a place in society, but to enable him to make his own place.....we put shoes on a child to protect his health, not to bind his feet*
>
> *Tanner & Tanner, 1975*

Teachers are so drilled with the need to develop effective classroom practices they look upon educational research and theory as a field of specialization removed from the practical concerns of school.

When there is a void between emerging theory and existing practice without clearly defined goals, conflict emerges. In the quest for curriculum relevance and the attempt to meet the individual child's needs, many secondary schools have resorted to ad hoc changes in course offerings and the expansion of elective options without conducting a fundamental assessment and redesign of the total curriculum.

The Problem is Reading

At North High School, teachers were concerned over student progress. They generally felt the students, although motivated to learn, were academically handicapped. Some of the students could not read; many of the students could not read well; and many of the students who could not read were not able to comprehend. They were so restricted in their methods of gathering information, the chances for effective and creative teaching were minimal. Results of the Ohio Survey Test given in fall 1976, confirmed this, showing that between 55 and 65 percent of the students had reading deficiencies. More important than the results, were the implications these results had for student performance in high school courses and success in later life. Reading is a necessary skill in almost all formal instruction and highly desirable, if not mandatory for productive adulthood. Although the teachers realized that students needed improved reading skills for success in academic subjects, North High School as most other high schools provided for reading neither as a separate course nor as an integral part of instruction in the content areas.

The decision was made, in consultation with the principal and teachers, to develop a program to attack reading deficiencies. Preliminary meetings with the English teachers resulted in great resistance. In fact, reading teachers claimed no knowledge of reading instruction techniques at all. Attempts to enlist their cooperation in designing a reading program were unsuccessful.

The problem was taken to a secondary reading expert who

directed reading centers in New Jersey high schools. Characteristics of North High School, students and the faculty were carefully described, as were the project goals for inservice faculty. The expert was then asked to dream.

The results of these dreams were taken back to the project staff and developed, with input from the principal and the Director of Instruction, into a proposal for a reading program for students and inservice for teachers. This was presented to the school staff in May and approved in September, resulting in the Center for Extended Learning (CEL).

The center was designed to provide a senior high school reading program through which students could develop and improve a variety of reading skills. The staff development component of the CEL was also designed to facilitate student participation in the reading program and to provide teachers with a chance to develop and participate in an intensive field-based staff development experience.

The CEL Program

A comprehensive reading program was developed using the Random House High Intensity System — reading as a foundation. The developmental reading program was designed to accommodate all students in the high school, from the non-reader to the advanced reader in grades 9 through 12. High Intensity Reading contributed to a management system with materials from more than 60 publishers coded into the appropriate levels of the system. A global pretest placed students into one of five broad levels; specific pretests and posttests, assessed individual objectives at the appropriate level in four general categories — word study, vocabulary, comprehension and study skills.

Staff Development

English, foreign language, mathematics, science and social studies teachers agreed that if student reading skills were improved, they could teach as much material as they normally did but in less time. Specifically, social studies classes would no longer meet on Mondays. Any student who normally had a social studies class on Monday went instead to the CEL to read for that period. Every social studies student therefore, went to the CEL that period every Monday all year. This freed all social studies teachers to participate in staff development activities every Monday, all day, similarly for students and teachers of English (Tuesdays), foreign language (Wednesdays), mathematics (Thursdays), and science (Fridays).

The day-long staff development program for teachers was intended to provide opportunities for teachers to:

1. develop new instruction programs
2. visit area schools to explore teaching alternatives
3. design activities for reading in the content areas
4. develop mini grants for curriculum projects both within and across disciplines
5. explore team teaching activities both within and across disciplines

The transition program met with considerable resistance, partially due to the teachers' fear of the unknown and partially due to individual teachers resisting the idea of teaching reading. Many teachers felt as though their current teaching responsibilites did not and should not include the teaching and/or improving of reading skills. They felt the improvement of such skills would certainly improve student classroom performance in all academic areas.

The impact of the CEL on both students and teachers was significant. Center activities affected the daily schedule of teachers and students. Effects were even felt at the central office where rescheduling was done and revised credits for students were computed. The program was highly effective for students; the program for teachers, however, was ineffective. Self-design and implementation of their own staff development programs resulted in no change.

Mann (1978) said;

The people to be developed strongly influenced the success or failure of the projects. The higher the grade level, the more resistant to training was the teacher. No project was able to have any impact on a high school.

This has devastating implications for those who are involved in trying to change secondary schools.

Weinstock (1973) suggested that the condition which confronts educators is the fact that although youth is no longer the same, and the world is no longer the same, high schools are essentially unchanged from what they were at the beginning of the century. Schools are not succeeding in providing an adequate education for many millions of economically disadvantaged students who live and go to school in predominantly low-income areas in big cities (Ornstein, et al., 1975).

Sawhill (1979) stated that the educational system has been made the principal tool for social change and identifies reasons for the failure of schools to fulfill this charge. Among these are:

1. Schools are asked to do too much.
2. Students cannot learn what they are not taught.
3. We do not know what makes for an effective learning experience.
4. What is good for the teacher is not always good for the pupil.

Ornstein, et al. (1975) argued,

Just how the schools can alter social order, or how the rest of society can alter the schools, is not yet clear; nevertheless, educators should be aware of the nature of the social setting. For the most part, the schools do not change society, they reflect it, and the ills of society usually affect the schools .....(However,) schools could respond by designing programs, schedules and physical settings that do not require students to sit immobile in classrooms for hours each day.

Perhaps the secondary schools of today need more than modification, perhaps they need a complete restructuring. Our research related to individualization suggests any student, given a chance, can achieve beyond his or her present ability with the proper setting and motivation. Our Center for Extended Learning provided this opportunity for student growth. The dilemma was that the project demonstrated that it worked, but failed to convince the faculty. ■

References

Mann, D. (Ed.) *Making Change Happen*. New York: Teachers College Press, 1978.

Ornstein, A. et al. *Reforming Metropolitan Schools*. California: Goodyear, 1975.

Sawhill, J. "Why Our Schools Don't Work". New York: *Saturday Review*, August 1979.

Tanner, D. & Tanner, L. *Curriculum Development: Theory into Practice*. New York: Collier MacMillan, 1975.

Weinstock, R. (Ed.) *The Greening of the High School*. Ohio: /I/D/E/A, 1973.

Implementing Change at the University

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The goal of the Oakland University/Farmington Public Schools Teacher Corps was to consolidate diverse, unilateral institutional responses into a common effort to create a more comprehensive, stable, educational and community support system for troubled youth. The changes brought about by our efforts were centered around a new pre and inservice professional development program and its ultimate institutionalization.

The project involved senior faculty members from several disciplines to plan the new professional development program. The program design combined competencies from several disciplines and centered around the attitudes, skills, and knowledge base generic in preparing professionals to work with troubled youth. There were 60 hours in the total program design; with the final design containing four components:

1. Youth Advocacy Teacher (12 semester hours)
2. Troubled Youth (12 semester hours)
3. Curriculum and Instruction of Troubled Youth (20 semester hours)
4. Learning Environments for Troubled Youth (16 semester hours)

The proof of change, especially at the university level, is seen when programs are institutionalized through the very complicated process of peer acceptance. At the conclusion of our project, a new concentration in Youth Advocacy at the Master of Arts in Teaching (MAT) level was adopted. Through our efforts, new professional development outreach projects have been encouraged and initiated.

Why did change occur? What were the lessons learned? What are generalizable as principles of change? In his situational parameters of implementation, Berman (1980) suggests that organizational, political, social and legal contexts within which implementation occurs, profoundly influence the ability to implement change. Those who wish to bring about change must choose implementation strategies to match their unique contextual dimensions. The problem becomes one of identifying the dimensions of the situation: which are the most important, and finding generalizable factors. Even though Berman concludes that the literature to date does not answer these and other problems, he suggests five parameters that capture critically different dimensions in an effort to diagnose situations. Two major approaches within each parameter are: programmed and/or adaptive. Implementers choose between programmed and adaptive implementation strategies and mix and match elements of each to fit contextual dimensions. Efforts at implementing change at the university level demonstrate how these situational parameters shaped our strategies.

The *scope of change* is a situational parameter relating to the kind and amount of change. In this dimension a mix of programmed and adaptive approaches were used because the change desired required the implementation of both. The programmed approach used existing lines of authority through the various instructional and governance committees. Because of the diffusion of power along informal power lines at the university, especially on matters of program and curriculum, it is important that key professors and various informal power groups be involved. Therefore, adaptive strategies were employed to encourage extensive participation in the planning and decision-making process from the very beginning. This encouraged involvement and the feeling of ownership, which in turn helped to win approval. It is important to know the power brokers, the gatekeepers, the bestowers of "rights of passage," and the real movers and shakers within the system. They must be involved. This is true in any social system, and particularly so in universities where seniority has its privileges and the individual's academic freedom and personal autonomy are held in sacred trust. Domains of power and prestige are mapped and prerogatives guarded jealously. Failure to realize the dynamics operating within this community or failure to acquire the right approvals will negate any potential for change. It is for these reasons the tenured and the senior professors in the programs have been involved. Their involvement was a negotiated matching of project goals and their own professional goals. The adaptive approach was used to negotiate and involve, thereby assuring broader based ownership and approval. This does two things. First, it allows the program to develop and grow. Second, through their involvement and the pluses they have enjoyed because of their involvement, credits are there to be used when needed to change a program, or a policy, or a practice.

The second dimension deals with *certainty of technology or theory*. The project attempted to implement a new program of professional development in youth advocacy, an area of relatively high technological and theoretical uncertainty. An adaptive approach, therefore, provided greater probability of bureaucratic support. This allowed the technology to evolve in accordance with the uniqueness of the system and the newness of this area in teacher preparation. Ownership and involvement promotes the change potential; at the same time, it promotes greater divergence of thought. For this reason, the project specifically planned broader based involvement during the initial stages of development when the conceptualization was of a more general nature. Specific planning was done by a smaller key group, whose members had prestige and power with the larger group. By using an adaptive approach with negotiation, greater approval potential was maintained.

Conflict over policy and goals deals with both programmatic and organizational issues. The development of new programs usually creates new allocations of increasingly limited resources and, therefore, conflict. A more adaptive approach was used to allow for negotiations and bargaining among interested parties. This allowed for a compromise in terms of those matters not directly affecting the substance of the change, but rather influenced other setting factors of mutual concern. Those included the allocation of resources and shifts in staff and materials. These mutual concerns need careful negotiating. In many respects this involves the important issues of maintaining the integrity of an effort, a program, or an experiment. Negotiating away this integrity not only jeopardizes the effort, but causes professional distrust among colleagues. This is an idiosyncratic phenomenon of higher education. A lack of professional integrity brings about more than a professional reaction. It is usually accompanied by varying degrees of emotion, which may or may not be exhibited directly. It may be an underlying current exhibiting itself in unpredictable and unrelated ways.

The *structure of institutional settings* as a factor refers to how loosely or tightly the operating units of the institution are coupled. Universities by their very nature are loosely coupled and therefore, a more adaptive approach is advan-

tageous. This approach tolerates bargaining, adjustments over time, flexibility in regulations, participation in policy development and mutual adjustment. The aspects of this approach are crucial for universities in particular.

Stability of environment refers to forces and conditions outside the system which affect the system, but are not primarily affected by it. The need for personal commitment on the part of the key change agent, the continuation of this commitment over time and at crucial stages in the change process are key factors. Stability needs continuity of commitment and leadership. This point was substantiated in a study of institutionalization of innovations (Carey & Marsh, 1978). This study identified the importance of commitment and leadership as crucial factors in the environment for change.

Arciniega's work (1978) on institutionalized changes, identifies additional important elements in planning major organizational changes. They include: a soundly conceived definition of the preferred new state of things; accurate analysis of external and internal pressures and constraints; competent professionals committed to the proposed changes; adequate resources; support from administrative levels; viable link-up to existing role and normative structures; and flexibility in implementing planned changes. In still another study (Clark & Guba, 1977), it was found that interaction among external and internal contextual factors predetermined what changes would succeed. They further emphasized the need to handle the impact of outside as well as inside pressures.

Certain generalizable factors can be assumed from this discussion. The interaction of often countervailing positive and negative forces, both internal and external, set the stage to either support or thwart change. There is a need for a core of faculty who are committed and adequately supported as well as being together long enough to affect change. They must also value the change. The change agent or leader must be a permanent member of the staff knowledgeable about and competent in assessing and using the system. Time is important and there are those who suggest that it may take as long as five years to institutionalize change. There must be an open organizational climate allowing for adaptation and change to new needs and ideas. Change must be linked to the existing norm structure with adequate structural and normative accommodations. Ownership, or at least identification with the change, must be widespread.

What factors were operating in the environment in Oakland? How many of these were present to facilitate change? There has been consistent leadership for more than nine years in the programs. The director is a tenured faculty member at the university and Chairperson of Curriculum Instruction and Supervision. Over this same time period we have involved the current Acting Dean as program development specialist for two years and instructor for an additional three. Seventy-eight percent of the full professors in the Department of Teacher Education have worked in the programs for more than two years. Sixty-five percent of the tenured staff in the department have taught more than one course in the various programs. Eighty-two percent of the tenured staff have either taught a course or participated in workshops and seminars in the projects. Current project staff are members on the various curriculum committees and councils which approve new programs.

Additionally, Oakland University has certain organizational features which lend themselves to change. It is a relatively young institution with a willing young staff and reputation for being responsive to program and client needs. The project also has an open organizational climate fostering experimentation and change. There has been no major decrease in student population or resources; so the organization is still flexible enough to accommodate the self-actualization goals of professors without jeopardizing institutional goals. In fact, there has been considerable compatibility of personal and organizational goals; partly because of the need for expanding and developing programs. Finally, Federal dollars have helped this program expansion by providing additional staff and resources thereby improving the university's reputation due to the program's excellent record. ■

References

Arciniega, T.A. "Institutionalizing Changes in Schools, Colleges and Departments of Education." *The Networker*, California Teacher Corps Network, Vol.1, No.2, fall, 1978.

Berman, P. "Thinking About Implementation Design: Matching Strategies to Situations" *Why Policies Succeed or Fail*. Dean Mann and Helen Ingram (Eds.) Beverly Hills, California: Sage, 1980.

Carey, L.M. and Marsh, D.D. "Strategies for Introducing Implementing Concepts from Research." A paper presented at AERA Conference in Toronto, Canada, March 1978.

Clark, D. and Guba, T. "The Role of Higher Education in Educational Knowledge Production and Utilization" in *The Networker*, Vol.1 , No. 2, fall 1978.

Lougheed, J.I. Final Report Oakland/Farmington Youth Advocacy Teacher Corps, Cycle 11. Grant No. G00-7603957. Submitted to Teacher Corps, USOE, August 1979.

Scope of Change as a Parameter of the Change Process

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The implementation of all school innovations, whether curricular, teaching strategy or administrative, requires some degree of behavior change from all persons involved. Quite often, the failure of an innovation can be traced to the intangibility of leadership and/or management. Leadership is one of the most difficult processes to describe in education systems, primarily because it is situational and dynamic.

A study of the change literature over the past 30 years indicates several approaches to the study of leadership and leadership roles. One sees a progression from the study of characteristics of leaders, to the study of personal relationships in a group or social situation, to motives and perceptions of individual group members and more recently, to organizations as human systems. However, few attempts have been made to integrate constructs from group leadership. Constructs such as motivation, roles, and compromise between the individual and society have rarely been studied in an integrated fashion.

Research on change in school environments has been concerned for the most part with types, models, processes,

strategies, and barriers to change (Wiles & Bondi, 1979). More research is needed about the assumption that people only change when they feel a need to change. Some recent literature include a focus on models or designs of implementation strategies. One such model (Berman, 1980) identifies "programmed implementation" and "adaptive implementation" approaches. Berman suggests that implementation problems can be reduced by explicit pre-programming of implementation procedures. The other view, called adaptive implementation, holds that initial plans should be adapted to unfolding events and decisions.

Berman further adds situational parameters to the implementation approaches. These parameters include: *scope of change, certainty of technology or theory, conflict over goals and means, structure of institutional setting,* and *stability of environment.*

The application of Berman's situational parameters of scope of change to an actual situation, or in retrospect, to a completed project offers some interesting possibilities for study. Application of this approach in terms of stages of change such as *problem identification, consensus development of solutions, program development, implementation,* and *institutionalization* offers further possibilities for study.

The application of this matrix (see Table 2) to a completed project and the decision-making processes involved reviews the use of this model.

The thrust of the 11th cycle University of South Florida/ Hillsborough County Public Schools Teacher Corps project in the Mitchell Elementary School was the application of research findings on diagnostic/prescriptive instruction. Using instructional technology and management behavior, the project developed and demonstrated an approach which facilitated the learning of mathematics, reading, and multicultural education by low-income children. Research findings were used to develop a training program, later implemented cooperatively by the university, school system and the community.

The problem identification stage of change was accomplished using both adaptive and programmed implementation. For large components, the project used the adaptive process, whereas for sub-components, the programmed process use was evident. Long-range goals were selected by using the adaptive process early in the project design along with component objectives. A similar set of activities was initiated to determine the staff development objectives, demonstrating a form of adaptive process. The collaborative process, itself, was developed through negotiation, compromise, trial and error, and a continuous interplay of theory and practice (Bullock & Swarzman, 1978).

Primary activities for identifying and specifying staff development objectives were:

1. Major areas of responsibility were identified and designated as project components (or content areas). A university coordinator was assigned responsibility for one or more of the components. A committee was formed for each component: administration, reading/mathematics instruction, multicultural education, classroom management, community, evaluation, media, intern training, and special education.
2. With the support of the principal, each faculty member volunteered to serve on a committee.
3. Each committee (composed of one or more university personnel and several classroom teachers) met several times to construct a list of component objectives representing school, university and community needs, which they submitted to the project operations committee for review.
4. Each committee developed a plan for implementing each of its objectives. They identified all tasks required to meet each component objective, resource allocation needs, and a timeframe for completing tasks. Depending on the component, some committees were involved in reviewing and accepting tasks identified by project staff. The extent to which committee members were involved depended upon interest, desire, and complexity of content.
5. The university coordinators organized each component's objectives into a format consisting of a mission statement, objectives, specific tasks, and enabling activities. Each component committee met to finalize the rough draft of their objectives.
6. At a school faculty meeting, each project participant was presented a notebook containing a complete set of objectives for each component. At this time, additions or corrections were heard and informal discussions were held to clarify points of concern and interest.
7. The operations committee constructed an overall staff development implementation plan based on each committee's final list of component objectives.
8. Finally, staff development classes began. A direct relationship between the staff development program and perceived school needs was established.

Instructors were involved in decisions regarding steps 7 and 8 in terms of presenting the content by either a programmed or adaptive process.

In the stage of change relating to the development of consensus for solutions to problems, the project used a team approach. This was obviously an adaptive process, as input was dealt with immediately and adjustments were continuous.

This team had as its function the day-to-day operation of the project. It attended to administration, evaluation, and program development. The team performed four functions in relationship to the above; namely, planning, decision-making, implementation, and dissemination. In other organizational schemes these functions might all be performed by the director and his/her staff. With this scheme, the director assumed the role of executive secretary where each member of the team performed the tasks assigned to him/her by the team.

The program development stage of change was accomplished primarily by the adaptive process simply by operationalizing the previous stage. Staffing, time, space and materials were allocated according to a Management By Objectives (MBO) delivery system. The first step in this system identified major responsibilities and then designated each area as a component. Individual team members were assigned to smaller teams to develop a plan for implementing its objectives.

This plan appeared adaptive in process; however, considerable difficulty was encountered by assuming it had linear dimensions. It was impossible to adhere to the timelines for completion deadlines. It is doubtful that either an adaptive process (as used) or a programmed process (not used) would have proven entirely satisfactory. If the adaptive process had not been used, it is suspected that utter chaos would have reigned.

The implementation stage involved both programmed and adaptive implementation strategies. Some program development components were readily accomplished using programmed implementation strategies. The classroom management component, the special education component, and the reading component were structured and programmed. This plan did not allow for much interaction regarding choice for the teachers, and conflicts developed. This led to a change to the adaptive process for the rest of the staff development.

Other components (media, multicultural and mathema-

Table 2

Stages of Change / Berman's Factors Affecting Change Strategies	Problem Identification	Develop Consensus on Solution	Program Development & Acquisition	Implementation (Adaptation)	Maintenance & Renewal (Institutionalization)
Scope of Change	*Programmed* *Adaptive*	*Programmed* *Adaptive*	*Programmed* *Adaptive*	*Programmed* *Adaptive*	*Programmed* *Adaptive*
	Minor **Major**	**Minor** **Major**	**Minor** **Major**	**Major** **Major**	**Minor** **Minor**
	Implementation Approach	**Implementation Approach**	**Implementation Approach**	**Implementation Approach**	**Implementation Approach**

tics) were implemented using adaptive implementation strategies. Clinical teams were formed to assure interaction between the staff development delivery personnel and the teachers. The fundamental reason for establishing the clinical teams was to increase the ability of the schools to diagnose pupils and provide effective activities to improve learning. Clinical teams also allowed for staff interaction, capitalizing on the strengths and knowledge they possessed. This adaptive strategy stimulated four categories of clinical team activity deemed fundamental for accomplishing their goals: (1) professional development, (2) team procedures, (3) instruction, and (4) curriculum.

The importance of the application of several concepts of leadership and change cannot be overlooked in the success of the teams. The shared responsibility, the training that teams received in group process, and the ongoing feedback were crucial to staff development delivery. None of this could have been accomplished by programming the implementation — it clearly would not have been successful if a strict timeline had been used.

The institutionalization stage of change was not pursued to any great extent, primarily due to lack of time. Plans included both programmed and adaptive implementation strategies for the accomplishment of these tasks. Seminars were held at the university for staff, while workshops were held at other school and project sites, all of which were programmed.

The model of change discussed here indicates that certain decisions can be made to aid in the success of planned change. The situational parameter of scope of change can help when it is applied to a situation requiring implementation decisions.

Some of the factors for consideration when analyzing scope of change are: the curriculum, staffing, time, space, facilities, community participation, and administrative organization. Clearly the most important factor is time. The choice of either a programmed or adaptive implementation strategy must consider all of the above factors. The adaptive process was more effective and more often used in the project with "time" identified as the most crucial element. ■

References

Berman, P. "Thinking About Implementation Design: Matching Strategies to Situations." In D. Mann and H. Ingram, (Eds.), *Why Policies Succeed and Fail*, Beverly Hills, California: Sage, 1980.

Bullock, J. & Swarzman, J. "Formulating Inservice Objectives." In J. Cooper, *Problems and Processes of Inservice Education*. Atlanta: Southeastern Teacher Corps Network, 1978.

Wiles, J. & Bondi, J. *Curriculum Development*. Columbus, Ohio: Charles Merrill, 1979.

Section III Change: Process Analyses

This section includes excerpts from four papers which highlight an analysis of the change process. The papers provide a variety of explanations of the many forces which operate in real change situations.

Most contemporary, theoretical approaches to change reflect an organizational, systematic perspective. Oja departs from this orientation calling for a study of the developmental stages of individuals as proponents and recipients of change. Her work suggests rich possibilities for gaining deeper understanding of the change process by using developmental change readiness. Moreover, her paper proposes that a knowledge of human development enables the staff developer to implement change in ways which will enhance the personal and professional growth of teachers, the psychological growth of children, and facilitate the process of change.

One of the major hypotheses developed by Schroeder in his paper is that change in educational contexts occurs *simultaneously* on a variety of levels. In addition, he asserts educational settings are more complex than both theoreticians and practitioners realize. Using the concepts of micro and macro systems, Schroeder reflects on the scope and extent of change. He suggests a perspective for understanding and managing change which is based upon an examination of the interface between micro and macro systems. He concludes his paper by delineating a long-range systematic process which accounts for change.

The change literature is extensive in a variety of disciplines and identifies a wide range of variables which affect the implementation of change. One might ask which are the most critical. Wheeler's paper offers some tentative observations on six significant factors which act as causal agents for achieving positive change. Her paper examines the change literature through the lens of practical experience in confronting the myriad problems in installing innovation. From the real world of change implementation, Wheeler speculates and develops implications for the theory and practice of change.

Finally, the Kean-Judy paper analyzes a Native American change context. This unique setting provides an opportunity to assess the validity of the Berman change model components in a variety of situations through an analysis of three program developments. Their analysis suggests that an adaptive problem-solving approach may be the best way to promote change. Furthermore, they highlight the important effects of culture, collaboration, and language in the change process.

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Speculation On Why Change Occurs

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Many elements of the change process, when implemented, are likely to create considerable social, organizational, and individual discomfort, especially if one considers the number of trends operating in society. Significant trends include: shift from a production to a service economy; an increase in technology; increased confrontation by citizens; increased mobility of people with a lessening commitment to an organization or community; an increased feeling of powerlessness on the part of members in such systems and the continued explosion of knowledge. The likelihood of at least some dilemmas being created during change must be expected.

Trist (1970) defined the problem:

The contemporary environment. . .is taking on the quality of a turbulent field. . . .This turbulence grossly increases the area of relative uncertainty for individuals and organizations alike. It raises far-reaching problems concerning the limits of human adaptation. Forms of adaptation, both personal and organizational, developed to meet a simpler type of environment, no longer suffice to meet the higher levels of complexity now coming into existence. . . .The planner's dilemma. . . may be summarized as follows: the greater the degree of change, the greater the need for planning—otherwise precedents of the past could guide the future; but the greater the degree of uncertainty, the greater the likelihood that plans right today will be wrong tomorrow.

The problem for managers of change projects is whether they have the resources and skills to bring about renewal in their organizations to meet all the challenges. Lippitt (1974) maintains that as managers face the confusing transitions, no one style of leadership or management is adequate. All managers within a project must be "existential pragmatists" who can deal appropriately with multiple situations. Decisions must be made with respect to situations , rather than situations creating decisions. Situations of the nature described in this paper will test whether individuals and groups are really able to meet many kinds of needs. It is through working in situations and examining the failures and successes of organizational systems that one finds the value of selection procedures, interfacing processes, training programs, communication efforts and development activities.

This article describes the efforts of the Florida State University/Florida A & M University/Leon County Teacher Corps to bring about successful changes in student achievement and the related teacher behaviors that caused such changes. Elements of the change process that contributed to the successes and failures of the project are also examined.

Recent literature on planned change stresses the significance of "a high level" felt need for effecting change (Mann, 1978). The process for selecting change targets in the project community comes from two models or positions - "goal-seeking" and "problem-solving."

The "goal-seeking" model evolved from the need for a long term and continuous improvement in math and reading achievement in students and corollary behaviors in teachers. The "problem-solving" orientation adopted by Teacher Corps staff and local school staff stemmed from dissatisfaction with strategies and techniques used to increase math and reading achievement among students in the community.

The purpose of this article is not to provide a statistical analysis of the change which occurred or a narrative description of the treatment. The article is a speculative discussion of the relationship between theorized bases for change and events at the target school.

Four areas often cited in the change literature as causal agents or conditions for successful change are:

1. The role of the school administrators
2. Project direction and decision-making
3. The role of informal groups
4. Entry behavior of the project

Each area will be treated by citing an appropriate source in the change literature, by describing activities at our target school related to that change and by drawing conclusions concerning the two.

Role of the School Administrators

Much of the literature suggests the principal is a key agent for change in a school. Because planned change is complicated by the interrelatedness of social institutions, systematic planning is necessary for the maintenance of a dynamic equilibrium in the total school environment. With new pressures being applied to the principal everyday, he/she must become accustomed to dealing with change. The principal must be able to perform a leadership role in a constantly changing environment.

Chesler, Schmuck and Lippitt (1975) state that it is the direct influence of the principal's role that encourages or discourages individual teachers to try out and report upon their new ideas. It is the principal's indirect influence that helps to create staff relationships that generate comfortable feelings among teachers which encourage them to implement or share innovative efforts.

Why is it that some teachers create and try out new practices, while others do not? The direct and indirect influences of the key administrators in a school are partial answers to that question.

In the 12th cycle project, indirect influence of the school administrator was exhibited in two ways: presence as a workshop participant and projection of an image as a "problem-solver." The administrator made a role transition from onlooker and director of project activities to implementer, learner and receiver of new ideas.

Another major factor influencing innovative teaching (Lippitt, 1964) is the staff feeling that the school administration will support new teaching practices. The principal in the 12th cycle project showed active support for new practices and the teachers implementing them by not only attending workshops, but also participating in the discussions and using faculty meetings to openly advocate application of the practices to classroom problems.

These direct influences on the part of the principal made innovative changes more salient. He reinforced support by discussing the new concepts in faculty meetings, evaluative conferences and allocated permanent system funds to purchase supplementary materials related to the innovations. The principal was willing to rearrange teachers' times and

energy commitment in the classroom as well as to provide for on-site workshops for trial use of new ideas. External pressures in the form of district mandates which called for new reading programs led to a decrease in the possible number of "out of classroom" commitments. Before district mandates began to divide their attention, administrative energies were mostly directed at "what can we do for the staff." The principal, generally, displayed norms of egalitarianism and pragmatism by actually demonstrating the new concepts with children in the classroom, again a direct influence.

It would seem, from the author's point of view, that the role of the administrators had considerable direct and indirect influence on the personal priorities of the teachers. New teaching procedures were adopted and administrative influence in the peer culture resulted in the desire of some staff to support and share new practices with teachers in and beyond the project community.

Decision-Making and Project Direction

Change and innovation, for those affiliated or involved, can be negative as well as positive forces. It becomes necessary, then, to ensure that change works for the parties involved rather than against them. One should also note, as our staff did, that change(s) can become negative if the adopters and deciders are not the same people.

In order to deflect some of the negative forces, Teacher Corps and school staff investigated, assessed and selected possible solutions to identified needs. Initially, a win/lose outcome was avoided by involving the school staff in nearly all of the decisions that were made including hiring of the school based Teacher Corps staff. Decisions on priority instructional goals were eased by the use of the Inservice Needs Assessment Process (INAP). The process yielded some interesting data—of the priority instructional goals identified, three of the six related to mathematics improvement. These were:

1. Diagnose student learning and prescribe teaching methods related to diagnosed student needs.
2. Increase teachers' awareness of the difference between pupils' grade level and pupils' achievement level.
3. Improve teachers' ability to provide different programs in reading and math that are related to individuals reading and math levels, grouping and needs.

In addition, the comprehensive plan data from the school indicated a commitment to "continue assistance to students in the development of skills and understanding of basic mathematics concepts appropriate to each individual's level of competence and to reduce the difference in the levels of performance and assigned grade levels." The data derived from the INAP process and the comprehensive plans provided the Teacher Corps staff with a sound base of needs identified by the school staff.

Other supportive data included an open analysis of the options in use. The math program, prior to project entry, included large and small group instruction, state adopted texts and commercial materials. Emphasis was on the sequential achievement of math skills. The change which was sought was a reduction in the discrepancy between student performance level and student assigned grade level. Examination of supplemental alternatives included the Piagetian orientation to mathematics and computer assisted instruction. After open and extensive analysis, a consensus decision was reached.

It was decided the Teacher Corps and school staffs would work toward a Piagetian orientation in math, secure additional materials and design a more appropriate sequence of skills for each grade level in hopes of reaching the goal of improved mathematics achievement. A similar process was used to reach consensus goals in other areas of the curriculum.

According to Argyris (1974), in a healthy organization, distribution of influence is relatively equitable. In our project, teachers and community members alike were able to influence "upward" as evidenced by the incorporation of their ideas into the program design. In addition to their influence in the mathematics program, parents and teachers influenced the incorporation of a karate class for third graders into the community involvement plan. Teachers influenced the design of a good citizen program within the school, brownie and cub scout troops, a parent school volunteer program and participation in Reading Is Fundamental. While these did not influence change in mathematics achievement, they did contribute to the idea that "everyone" had a voice.

Intergroup struggles for expert power among teachers, although present, were not bitter. The stance of community members was cooperative rather than explicitly coercive. Ideas were accepted by teachers and parents more on the basis of the competence of the "influencer" vis-a-vis the issue at hand, their stake in the outcome and the amount of knowledge that person had.

Complementary to the decision-making process used in the project were the immediate response vehicles: the mathematics School Based Teacher Educator's (SBTE) on-site workshops, demonstration lessons and new materials. School based teacher resources, one of the Teacher Corps projects systems "inputs," were received and used effectively. An effort was made by the mathematics SBTE to see that the "fit" between teachers' individual goals and the demands of the system were met. Teachers worked very hard, but not against themselves or the organization. It seemed that the involvement and accessibility of the SBTE helped to reduce the friction between the temporary and permanent systems and their work on common goals. In short, it acknowledged the role and importance of individual teachers.

On-site workshops in individualized instruction, alternative and supplementary materials, Piaget's theory and application, behavior, social studies and reading helped to reinforce the credibility of the project and encourage work on goals selected by teachers and Teacher Corps staff. In addition, demonstration lessons reflecting workshop concepts were conducted by the SBTEs. This effort by Teacher Corps staff helped school staff feel more inclined to accept membership in the temporary system. We can conclude that some teachers were willing to be influenced by certain elements of the temporary system and to exert their own influence on others. The open decision-making style modeled throughout the life of the project enabled many of the school's staff to cope with problems related to innovation and project management rather than withdraw or deny that problems of conflict existed.

Informal Groups

A powerful factor in influencing change is the stance of one's trusted colleague. The role of informal group leaders is a critical element in the success of any project.

Organizations develop what Gardner (1968) called "minor cults" or groups (teachers, in this case) which develop strong localized support. These cults, in fact, become institutionalized and their procedures are not to be questioned. It was particularly difficult for opinion leaders in governance and leadership roles to make changes amid some very stable subsystems along with the added problem of creating stability in the overall organization amid change. An analysis of the leaders within the Teacher Corps project and within the school staff provided the following categories: leaders in

administrative roles, leaders in governance roles, and informal group leaders.

Roles are used to define expected forms of behavior appropriate to completing assigned tasks. In order to accomplish program goals, the Teacher Corps staff and school staff defined roles and matched individual expertise to those roles in an effort to enable school members to see Teacher Corps staff members in a functional relationship with those of fellow members. Some loss of common purpose was demonstrated by a few individuals in leadership roles due to different interpretation of the goals. At times, the lack of effort by some individuals toward common goals resulted in wasteful conflict, confusion and frustration. As in most organizations, it is common to find two or more individuals in sensitive leadership roles who have defined their common mission in different terms.

The informal group leaders assisted the project by keeping communication lines open to other staff, thus helping the teaching staff to feel more self-sufficient. These opinion leaders made possible the planning, organizing, directing and controlling of the program efforts. Some leaders in governance roles facilitated these same processes without actually doing the tasks.

The group leaders (a small number of strong, effective teachers) became active participants in most program activities. It was their presence and conversation about the project that increased participation in the successful efforts to change the mathematics curriculum.

It is an interesting phenomenon when only "piecemeal" changes are introduced into a permanent system—such as those pieces often introduced by Teacher Corps. Related parts of the system are rarely readjusted to ensure congruent, synchronized interaction among them. Manipulation of any part of a system will make itself felt on related systems. The social leaders in the 12th cycle project did much of the appraising, the redesigning and readjusting so that the interaction of temporary vs. permanent system goals and people appeared at times to be congruent and synchronized. The social leaders in effect became the strongest mechanism for helping to incorporate change into the permanent system. The social leaders' communication channels were more informal, allowing them to behave in ways many opinion leaders in leadership and governance roles could not, without appearing to "tell everybody what to do."

Entry

Despite the varied involvement by some groups of teachers, those group leaders who were involved became strong proponents for adaptation of the math and reading program components.

The successes the Teacher Corps project experienced were due in part to awareness of entry principles. The knowledge of new methods and techniques in math were introduced with as little disruption to normal patterns of teaching as possible.

Mills, (1979) in her research conducted in part at this project, stated that six principles of successful entry are true whenever a project tries to intervene in an ongoing institution. These principles are:

1. Accommodate the established behavior patterns, thereby minimizing disruptions.
2. Help teachers learn more about Teacher Corps.
3. Share with the teachers how the project will benefit them.
4. Take steps to ensure that the project personnel demonstrate respect and concern for the teachers as well as accepting cultural differences.
5. Enlist the support of the informal groups in the faculty in expressing the value of the project.
6. Be clear about what's considered "O.K." and what's considered "not O.K." in the permanent system, then fit the project's operation to the school's operation in terms of the way things are run.

The project achieved successes in changing mathematics achievement in part due to our adherance to those principles.

The project employed several target school staff; conducted most staff development on-site, often in classrooms; had the support of the principal; helped the teachers improve activities they wanted help with; and informed everyone. One aid in these efforts was a pseudo "contract" agreed upon between project and school staff. The contract established 17 specific conditions for mutual behavior.

The pre-entry concerns of the local school staff appropriately serve as the basis for project planning but a project must be adaptive itself. The collaborative pre-assessment data analysis indicated a need to achieve long-range organizational goals yet during entry there was a brief shift from long-range concerns to day-to-day problems. Losing sight of early project goals is a problem cited in the literature and suggests that both internal and external organizations must grow and change together.

The project's successful entry was enhanced by several kinds of rewards: additional teaching materials, attending conferences, a master's degree program and accessible school based help. Much attention and expectation centered on the materials; however, teachers developed a proprietary interest and the materials were not shared by many of the active project participants.

The continuity of project goals was carried through by the SBTE who provided consistent and frequent technical assistance in the classroom. In essence, there was respect for the established norms already operating in the school. Evidence of the respect of operating norms was in the continued attendance of individuals at on-site workshops, particularly in math, in the call for additional demonstration lessons and the request for assistance in the classrooms.

There is no question that perceptions about project staff members' working habits, abilities to train teachers and associated normative behaviors traveled through the informal communication channels in the school. It was these perceptions, whether accurate or inaccurate, which became the basis for teachers to decide which project staff to invite into their classrooms and which staff development activities to attend and support.

It seems the more a project is able to operate within the school's formal organizational structure, the more successful a project will be. Meeting district demands for immediate implementation of improved math scores and a new reading program required the Teacher Corps staff to help with planning sessions on these matters, discontinue some workshops and provide new ones as well as redefine project goals for both curriculum areas.

Finally, our data indicate that a project must attempt to respect cultural differences. The fact that all three SBTEs were white, that the school has a history of racial problems and that some problem had existed in the relationships between black and white teachers, could have led to a prediction that a rejection of change by some school staff was likely. It seemed that some reluctance about entry of a Teacher Corps project by black constituents existed at the entry stage, but the wide nature of the school's math activities demonstrate that these differences were overcome at least by the math SBTE.

These previous points suggest:

1. Entry requires many change agent skills and an equal amount of time for completion.

2. Continuous effort must be made to obtain information from individuals in the formal as well as informal systems during pre-entry and entry.
3. Renegotiation of the goals and school staff expectations must take place continuously throughout the duration of the project.
4. Project staff and school administrators must establish norms which provide for an atmosphere of open sharing and opportunity to "ask for help." ■

References

Argyris, C. *Interpersonal Competence and Organizational Effectiveness.* Homewood, Illinois: Dorsey Press, 1974.

Baldridge, J. & Deal, E. *Managing Change in Educational Organizations.* San Francisco: McCutchan Publishing Co., 1975.

Chesler, M., Schmuck, R. & Lippitt, R. "The Principal's Role in Facilitating Change," *Managing Change in Educational Organizations.* San Francisco: McCutchan Publishing Co., 1975.

Gant, J., South, O. & Hansen, J. *Temporary Systems.* P.O. Box 2001, Tallahassee, Florida, 1977.

Gardner, J. *No Easy Victories.* New York: Harper and Row, 1968.

Hart, B. & Wheeler, A. *Short Term Educational Programs.* Teacher Education Projects, Tallahasse, Florida, 1977.

Lippitt, R., Watson, J. & Westley, B. *The Dynamics of Planned Change.* New York: Harcourt and Brace, 1974.

Mann, D. "The Politics of Training Teachers in Schools," *Making Change Happen.* New York: Columbia University Teachers College Press, 1978.

Mills, J. "A Project's Entry: Factors Which Affect Teachers' Perception of Change," University of Texas at Austin, 1979.

Trist, E. "Between Cultures: The Current Crisis of Transition," *Organizational Frontiers and Human Values,* W. Schmidt, Ed. Belmont, California: Wadsworth Publishing Co., 1970.

Wright, R. *Exploring Vital Elements of Organizations and Management.* Dubuque, Iowa: Kendall Hunt Publishing Co., 1975.

Explaining Berman's Situational Parameters: The Wisconsin Native American Project

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This paper discusses the stages in educational change cycles which reflect Berman's change descriptors. Within the context of the Wisconsin Native American Teacher Corps (WNATC), program development has several meanings. At a general level, it is a system through which deliberate decisions are made; furthermore, activities are designed and implemented to achieve project goals. At more specific levels, program development and acquisition might be interpreted as curriculum plans, staff development, multilevel instructional design, administrative organization or reorganization and collaborative modes of operation.

Three specific programmatic elements will be discussed which relate to the major goals of increasing Menominee ownership of the district educational program. These are: (1) infusing Menominee culture into the curriculum; (2) developing competence in basic skills; and (3) designing the staff development programs. Within our discussion of each programmatic element, we will focus on some of the characteristics of the element's development and relate these characteristics to Berman's situational parameters.

The Association of Community Advisory Councils

Before discussing the Association of Advisory Councils, it is important to examine the reasons for selecting this particular example. First, the Association may be one of the most significant political forces in the outcome of the project. Second, its formation is related to one of the most major objectives of the project. Third, it has an excellent chance of being institutionalized. And fourth, the process by which the Association was established can be disseminated.

A series of events created an atmosphere which allowed the leaders of parent advisory committees to push for a district association of advisory councils. With the assistance of Teacher Corps and Title I field directors, the members of all the parent advisory committees met to compare programs and goals and to develop new sets of procedures and by-laws. The district association had enough members to be effective, but at the same time reduced competition over turf and time, permitting more effective use of resources. Ultimately, the Advisory Association will enhance the Menominee School District's total educational program on the reservation.

Berman's (1980) definition of *"scope of change"* includes "the kind and amount of change in the standard behavior of members of the implementing systems." Applied to the Association of Advisory Councils, the kind and amount of change can be defined in terms of the number of people working together and the events that occurred. Since most of the process of this particular change depended upon serendipitous events, describing the scope of change doesn't provide explanatory power for examining the change process. The change process simply did not depend upon scope; it depended upon the importance of the change to the people involved. Thus the questions become: How important is the change? What will be its effect on the behavior of those involved, regardless of how extensive the change? The Association is most important, not so much in terms of behavioral change within the overall project, but because it provided a more efficient vehicle for supporting needed communication and information among parents, community members and the schools.

Berman's second factor of educational change, *"certainty of theory or technology,"* again presents problems in terms of program development and acquisition. Those who formed the Association operated from the belief that collaboration among the parent advisory groups would both strengthen their individual programs and increase their influence in the process of making educational decisions in the school district.

In this project, as throughout Teacher Corps, collaboration among role groups is exceptionally important, particularly at the school district level. In this situation there are clear cultural differences between the two populations. Almost 100 percent of the parents and children in the district are Indian; by contrast, 80 percent of the district's instructional staff are non-Indian. This makes the collaboration process difficult.

Table 3
A Summary Description of The Situational Parameters for Program Development in Three Areas

Program (Implementation Strategy) / Parameters	Association of Parent Advisory Councils (Adaptive Implementation)	Menominee Readers (Adaptive Implementation)	Staff Development Programs (Adaptive Implementation)
Scope of Change	Minor	Minor	Major
Certainty of Theory or Technology	(Irrelevant)	Semicertain	Varies
Conflict Over Goals & Means	Some	None	Varies
Structure of Institutional Setting	Loose	Tight	Variable
Stability of Environment	(Confused)	Stable	Variable

Note: Berman uses the term "values" for the item descriptors used in this table. Where possible, his values have been used. In addition, several terms have been added: "irrelevant" means that the parameter did not relate; "semicertain" means that the parameter had some degree of certainty but not in all areas; "varies" and "variable" means simply that the parameter was constantly changing; "confused" means that interactions defied analysis.

Corwin (1979) argues that the more people one includes in the decision-making process, the more likely the original idea will be negotiated away. In the example just described, this proposition is not supported. It is uncertain that the primary goal of the Teacher Corps project and the Menominee Indian School District—to increase Menominee possession—will be accomplished through collaboration. It is certain, however, that this goal could never be realized otherwise.

Berman's third factor, *"degree of conflict over goals and means,"* is also somewhat difficult to apply to this particular example of program development and acquisition. Berman notes that implementation requires bargaining about means and goals among interested parties prior to and during the implementation process. Parent advisory groups negotiated continually among themselves in the initial stages of forming the Association. They clarified the purposes of their group, as well as the types of activities in which they would engage.

Berman, in his discussion of institutional setting, introduces two broad concepts which he hopes will prove fruitful for heuristic purposes—"tight coupling" and "loose coupling." As Berman defines them, a tightly coupled setting is one in which "the established pattern is high coordination among the various units in that setting." The military is an example. He suggests that programmed implementation strategies seem suited to a tightly coupled system because an established pattern of compliance exists. By inference then, a loosely coupled setting would be one in which the established pattern is low coordination among the various units and one in which no predictable pattern of compliance exists. The institutional setting in which the Menominee Association of Advisory Councils was formed and now operates may be called "loose coupling."

A group such as the Association operates within the Federal and state mandates related to Teacher Corps, ESEA Title I, Title VII of the Bilingual Education Act, Title IV of the Indian Education Act and the Wisconsin equivalent of P.L. 94-142. These mandates represent one level of coordination within the Councils. The Menominee School Board, the tribal government, Headstart, the Community Alternative High School, as well as the school district's administration, its teachers and its students could represent a second level. At a third level, one could describe the Association's institutional setting by examining its relationship to the several university campuses, to surrounding school districts and communities, to state agencies and to other Wisconsin tribes.

All of these groups, in one way or another, could have influenced the formation and the future of the Association. The complexity of the Association's institutional setting, augmented by observations regarding Berman's final factor, *"stability of environment,"* strongly argues for the adaptive approach to implementation.

Berman defines stability of environment as "forces or conditions outside the implementing system that affect the system but are not affected, in major ways, by it." During the process of forming the Association, the project experienced at least three different types of conditions: unforeseen events, ordinary external constraints and what are fondly labeled as "lay ons."

On the other hand, all of these conditions may not be external afterall. For example, although there is no data to support the contention, we could assume that it was information from the field which finally occasioned the directive for Federally funded programs to collaborate on basic skills programming. Congressional demands that USOE justify and avoid needless duplication in Federal programming at the local and state levels may also have been initiated at the grass roots level. In other words, some legislative changes, may have been responses to felt needs in the field. Viewed in this light, the potential for exercising influence toward possible educational change outside our local setting is real. Teacher Corps' dissemination and demonstration mandates are premised on this potential.

Menominee Readers

Our second example of program development and ac-

quisition relates to the creation of Menominee reading materials which emphasize vocabulary building. The problems were fairly easy to identify: (l) few, if any, materials were available for Menominee children which highlighted their own culture; (2) the children were scoring well below national norms on vocabulary tests; and (3) even without knowledge of test scores, teachers and staff were well aware that the children's vocabulary needed expanding. The responding strategy was to develop Menominee materials which emphasized vocabulary development.

The scope of the change was controlled by budget limitations and an uncertainty about whether the planned materials would meet reading needs. The first curriculum development effort was confined to three supplementary reading texts for use at the upper elementary level.

Applying the uncertainty of theory component of the Berman model, one should note that abundant research supports the importance of culturally relevant curriculum materials. In addition, there is considerable research on successful strategies for vocabulary acquisition. The community and the project staff felt strongly that the children had the right to exposure and education in relation to their own culture through materials developed, written and illustrated by Menominee people. Thus, there was agreement about the change, and little, if any conflict over ways to handle it. Everyone realized that the production of reading materials was not a panacea, nor would these materials guarantee dramatic vocabulary growth. However, all agreed that this project was an excellent place to address both basic skills and culturally relevant curriculum.

The Menominee Readers, in their present stage of development, consist of seven books of original stories and legends written by Menominee parents, teachers and interns and illustrated by Menominee professional and student artists. Three books were developed for grades four, five and six with a reading range from grades two through eight. Later, project participants wrote four books for the primary grades with a reading range from grades one through five. The adaptive implementation approach to program development change was used in developing and producing the Menominee Readers.

Staff Development

The final example of program development is, again, one in which the adaptive implementation approach was selected, prior to any familiarity with Berman's model. The project's staff development program is and always has been a continuing process of adaptation, maintenance (where feasible and desired) and renewal. There are many staff development formats designed for the various school district, community and university role groups involved with our project. Given the range of these groups, staff development strategies must be highly flexible and almost continually revised in terms of both content and procedures.

The scope of change for this project's staff development program is massive and long-range. Certainty of theory or technology will vary, fluctuating with the current specific problem. While conflict over means and goals will be an everpresent danger, the structure of the institutional setting should be and will remain fluid. The stability of our environment is, therefore, predictable. ■

References

Berman, P. "Thinking About Implementation Design: Matching Strategies to Situations," *Why Policies Succeed or Fail*. Beverly Hills, California: Sage, 1980.

Corwin, R. "Organization for Change: Lessons from Experience," *Alternative Images of the Future*. Cedar Falls, Iowa: University of Northern Iowa, 1979.

The Structure of Change and Stages of Adult Development

BY SHARON NODIE OJA

Berman (1980) suggests a two-dimensional model on the structure of change which includes five factors affecting change strategies and five stages of program implementation. This paper adds a third dimension, that of individual stages of adult development based on cognitive-structural change (see Figure 3). The third dimension of adult development determines how each of the factors affecting change strategies and stages of the change process is perceived, interpreted, and conceptualized by an individual implementor, whether the implementor is an LEA teacher, LEA parent, IHE faculty, or a larger unit like a school district.

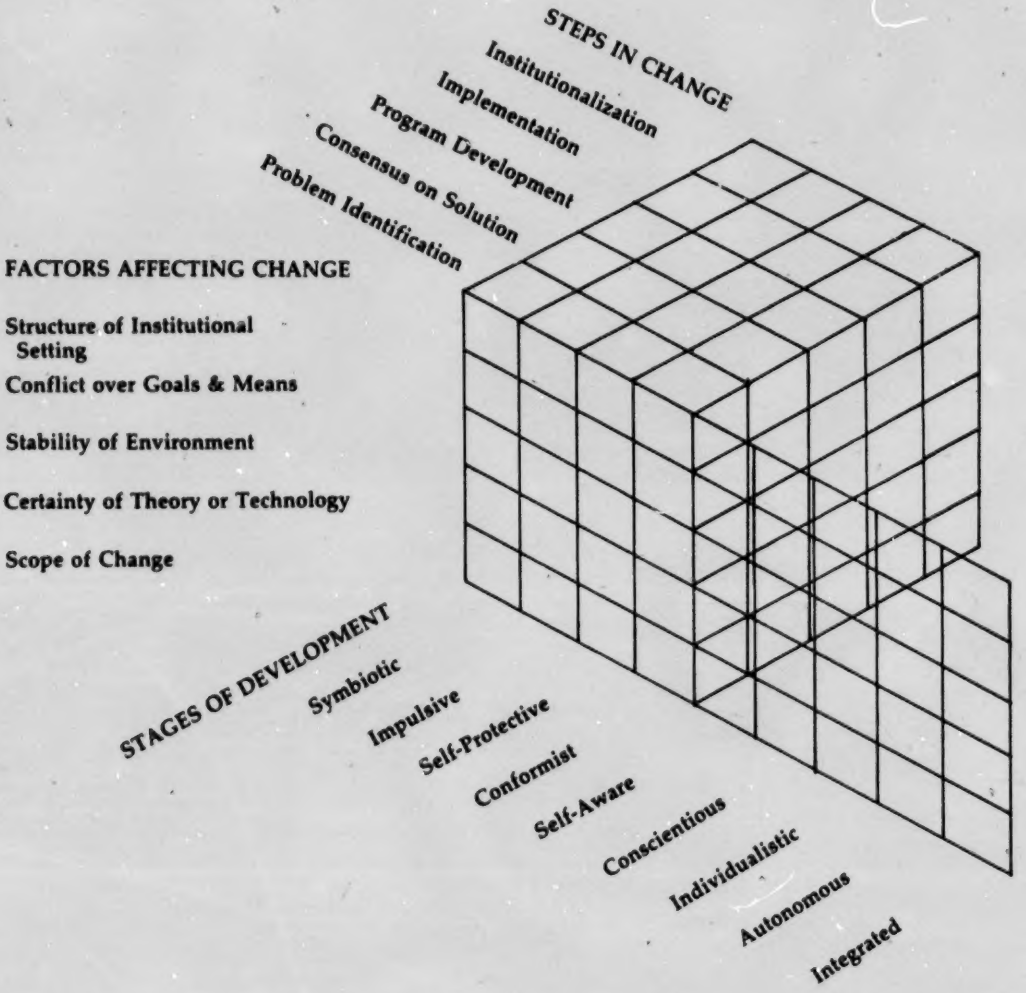
Previous research dealing with the effect of Teacher Corps initiated change on teachers' cognitive-structural levels (Oja, 1979a) investigated pre/post change in the personal/psychological development of a group of inservice teachers along three dimensions of ego development (Loevinger Sentence Completion Test, 1970), conceptual development (the Hunt Paragraph Completion Test, 1973) and moral/ethical development (the Rest Defining Issues Test, 1974).

Because of what McLaughlin (1978) calls mutual adaptation or Berman (1980) might term adaptive implementation strategies, the original research design has evolved into a case study approach—what has been learned in the process has energized a new research focus! The original question: "What is the amount of teachers' cognitive-structural change (or more informally personal/psychological development) that results from their involvement in Teacher Corps initiated activities in one junior high school?" has changed to the following questions: "How do teachers' incoming stages of personal/psychological development affect their identification of problems, conceptualization of solutions, program development, and implementation of classroom innovation?" and "In what ways do the five factors (Figure 3) affecting change interact with the five stages of change to impede or promote teachers' development at the different stages?"

The current questions are more difficult and, at the same time, more adequate for describing the context of the diverse set of classroom implementations by teachers in the project. It is expected the case study data on the revised research questions will produce more powerful explanations of cognitive-structural change and more accurate predictions of

Figure 3

Theoretical Model for the Complete "Structure of Change"



teacher implementation of classroom innovation. The value of this work is in the creation of a new paradigm generating questions which address issues of staff development.

The stages of development which form the third dimension in the Structure of Change Model are based on a model of individual ego development by Jane Loevinger. Adult development has been described by referring to the stages of Lawrence Kohlberg (moral judgment), David Hunt (conceptual level), and Jean Piaget (cognitive level), in addition to Jane Loevinger. This paper uses only Loevinger's stages since they tend to encompass aspects of moral judgment, conceptual level, and cognitive ability within the larger framework of ego stage (see Sprinthall & Mosher, 1978, for relationship of these stages).

Ego Development

Jane Loevinger (1976), in her theory of ego development, has conceptualized seven sequential, invariant, hierarchical stages with three transitional stages. Each ego stage is more complex than the last and none can be skipped in the course of development. However, different individuals may stabilize at certain stages and consequently, not develop beyond those stages. Among adults there can be found representatives of each stage who are then characterized in the terms of the features specific to the stage at which they have stabilized.

The Washington University Sentence Completion (SC) Test of ego development is based on the assumption that each person has a core level of ego functioning. The purpose of the test is to determine this core level by assigning an ego level to a person based on the distribution of ratings of responses to the 36 sentence stems in the test.

Loevinger defines the essence of ego: "the striving to master, to integrate, to make sense of experience is the essence of ego" (Loevinger, 1969). This definition of ego differs from prior psychoanalytic definitions in two ways: (1) conceptually, ego development is a sequence of steps along a continuum of differentiation and complexity...and (2) Loevinger's definition by design allows for systematic empirical research (Hauser, 1976). Loevinger claims a "unitary" nature of her scheme in describing the ego as providing the frame of reference that structures one's world and within which one perceives the world. The ego is an "inner logic"

which maintains its stability and identity and its structure by selective inattention to factors inconsistent with its current ego level (Loevinger, 1969).

Loevinger (1976) describes the defining characteristics of the successive stages of ego development in terms of impulse control, interpersonal style, conscious preoccupation and cognitive style. These stages can be compared with levels of moral judgment. At the preconventional level, are the Symbiotic, Impulsive, and Self-Protective stages. At the conventional levels are Conformists, Self-Aware, and Conscientious stages. At the post-conventional levels are the Individualistic, Autonomous, and Integrated ego stages. It is interesting that Loevinger claims the moral judgment levels and cognitive stages are included within her more encompassing ego stages. Also, she claims that the Autonomous and Integrated stages go beyond principled thinking in Kohlberg's terms by including concern for mutuality and responsibility beyond a single focus of individuality. (This may be the issue Carol Gilligan (1979) is confronting in her research on moral judgment differences in men and women.)

Recent research studies found experienced teachers stabilized at the self-aware ego level (Bernier, 1976) or at the conscientous ego level (Oja, 1979). Other researchers report the self-aware ego level to be the most predominant adult ego level (Hauser, 1976; Loevinger, 1976).

The advantage of promoting teachers' growth to higher levels of ego development is that subsequent stages allow for more empathic roletaking, thinking about alternate perspectives, and more adequate problem-solving.

Loevinger's developmental stage theory (along with Kohlberg and Gilligan's theories on moral judgment and Hunt's theory on conceptual development) have strong implications for adult development programs within teacher education. The goals of such programs would be to deliberately promote ego maturity, principled moral/ethical reasoning, and increased conceptual complexity on the part of inservice teachers.

Implications for Staff Development

What is the relationship between characteristics of adult stages of development and the implications of these stages for promoting growth? Staff developers may use knowledge of the developmental needs of the teachers to identify roletaking activities most closely geared to adults' wants and needs.

At the *self-protective* stage, an individual learns to anticipate immediate, short-term rewards and punishments. There is a recognition of impulses; however, the tendency to blame other people or circumstances is predominant. Being caught is what makes an action wrong. Interpersonal relations are manipulative and exploitive. In education, we see only a few teachers who remain at this stage. Teachers who exhibit characteristics of this stage may be opportunistic, deceptive, and preoccupied with control and advantage. The needs of this person are reflected in the issue of trust. The individual needs to be capable of trust. The goal in promoting developmental growth of this person to the Conformist Stage is to help the individual to identify his or her own welfare with that of the positive interests of a group. Experiences of the Outward Bound type, activities similar to those described by Friere (1968), or experiences similar to those presented by Belenky, Tarule, and Landa (1979) would be a starting point for the design of responsible roletaking activities for this stage of development.

At the *conformist* stage a person is seen as peer-dominated, directed by others, fearful of being noticed as different, and always observing the expectations of others. This level might be described as field-dependent (Witkin, 1976) response-oriented, and social climbing. The conformist may be ashamed of his/her background, especially if it is obviously different from that of others. Often trust extends only as far as the conformist person's own group, and stereotyping and prejudice toward other groups may be present. The view of other people is conceptually simple with little acknowledgement of individual differences, contingencies, or exceptions. Behavior is viewed externally rather than in terms of feelings. The needs of the conformist group are affiliation (McClelland, 1965), empathy (Carkhuff, 1969; Gazda, 1973), and developing for the "self" as well as others. The overall goal in promoting the developmental growth of persons at the conformist stage is to produce more inner-directedness; to present the person with a widening of perspectives, a variety of theories and alternatives; to help the person think for the self, get outside of the self; and to conceptualize at higher levels.

The *self aware* level designates the transitional level from the conformist to conscientious stage. This seems to be the model level for adults in the United States. There are many similarities to the conformist stage, with the addition of increases in self awareness and an appreciation of multiple possibilities in situations. Feelings of loneliness, embarrassment, homesickness, self-confidence and most often self-consciousness are examples of the self aware person's recognition of his/her individual position vis-a-vis other people.

Suggested educational programs which might promote growth from the conformist stage to the conscientious stage are conflict management (including speaking I-messages for self, D. W. Johnson and R.R. Johnson, 1975); achievement training (a highly structured approach to teach people to take realistic risks and set realistic goals, Alschuler, 1970); assertion training; responsible roletaking, in which the role is significant, important, and of high quality; "identity training" to increase inner-directedness; survival training via the wilderness training experiences; and programs with self-evaluation and self-supervision to encourage self-reflection. These programs all encourage agency, inner-redirectedness and self-confidence. In education, one would additionally teach a variety of different models of teaching which seem to fit different conditions in the classroom, and train teachers to actively practice these roles and learn to discriminate their appropriateness.

At the *conscientious* stage the major elements of the adult conscience are in evidence, i.e., long-term self-evaluated goals and ideals, differentiated self-criticism, and a sense of responsibility. The conscientious person is future-oriented, achievement-oriented, able to delay gratification, is conscientious, follows rules, and tends to internalize rules which are chosen, not simply accepted as group sanctions. Exceptions and contingencies are recognized; for example, the individual at this stage, though less likely to feel guilty about breaking a rule, is likely to feel guilty about hurting another person while conforming to the rules. A person's own standards determine the aspiration for achievement which is prevalent at this stage. Behavior patterns, traits, and motives in oneself and others are perceived at this stage. The "Person in Democracy" as the American ethic exists is exemplified in this level. As an example, one envisions the good, dedicated, "professional," who is highly stable and almost impervious to change. Although able to think more abstractly, this person may act mainly from one single frame of reference or one world view (see William Perry, 1970). In some cases (especially males*) of movement through the conformist stage prior to this, one might see examples of persons who did not bridge the transition of empathy in order for feelings and perceptions of different emotions to be a strong

*Carol Gilligan (1979) writes about mutuality and empathy being in greater evidence for women than men.

part of their achievement-oriented conscientious stage. Consequently, many conscientious people are unable to empathize with, feel real warmth toward, or experience mutuality in interpersonal relationships with people who appear different from themselves.

There are assets and liabilities to each level, and each successive stage is better because it has more assets than the preceding stage. The liability of the conscientious stage is that the person may become so stable that (s)he becomes rigid in her/his thinking. In attempting to plan programs which would promote growth to the autonomous stage one must take a look at the assets and advantages of autonomy. These may be listed as (1) more of a synthesis between content and feelings, (2) an inner-directedness with empathy and mutuality in interpersonal relations, (3) the ability to see multiple points of view and synthesize them (4) more understanding of rules, reasons behind the rules, and therefore, more selectivity in priorities, (5) ability to maintain broader perspectives, (6) awareness of psychological causality and development and (7) ability to cope with inner conflicts and conflicting needs and duties.

Teachers at the higher stages would be more effective —in that they are more tolerant of ambiguity and are confident in using many models of teaching to meet the many perceived variations in the cognitive, social, and psychological needs of their students. Possible programs which would stress growth from the conscientious to the autonomous stages would be mutual interdependency training, musical "moral" chairs in the sense of reversible roles, and "cross-role training" ala Kevin Ryan as significant roletaking experiences for adults. The important and rather ominous fact here is that in promoting growth to the autonomous level one is asking people to think and act more comprehensively, often at odds with much of society. Therefore, people in this transition must be allowed to be in strong, leadership/responsibility programs where they have control of their own destiny. One must also consider the fact of "functional regression" (Kohlberg, 1973), i.e., that in working within the educational institutions people may be forced at times to behave in a manner different from their autonomous stage characteristics in order to survive.

Classroom Characteristics Relating to Staff Development. Staff developers may go one step further and use a classroom analog of stages in order to recognize the chalienge teachers face when they change the formats of their individual classrooms. In a single school can be found different classroom environments which incorporate different strategies of teaching and learning which could be described by developmental stage concepts. Table 4 suggests a match between developmental stage and classroom type, classroom characteristics, and classroom control. This model is based on a paper by Weathersby and Lasker (1975) who initiated an organizational analog of stages of development.

To classify an entire school or district one would need to investigate the institutional climate, looking at the norms, the way decisions are made, the way administrative structures get enacted, the size and scale, etc. The analogy seems to hold if one asks what is the consistent logic that holds the institution together. For instance, power is one aspect. At the lower developmental stages it is power and control used

Table 4

Description of Classroom Characteristics * in Terms of Stages of Development

Loevinger Stage	Classroom Type	Classroom Characteristics	Classroom Control
Autonomous	Post-conventional: learning and growth center (Ideal just community) some alternative schools	Concern with human growth & development: "real" learning, creativity, flexibility, change	Collaborative classroom control and authority, respect for contributions of individual students and how best they add their talents to the classroom structure
Conscientious	"Conscientious" — the efficient, effective classroom with concern for interpersonal communication	Concern with achievement, rational thinking, planning, coordinating events. Responsibility, mutual concern for communication	Ranking of authority and of control, defined tasks of students in order to keep the structure efficient
Conformist	"Conventional" — most classrooms typify this type	Concern with belonging, social acceptability, conformity to external rules, shame, guilt for breaking rules	Rule-oriented, concern for a person's role and status within one system of rules
Impulsive & Self-Protective	Authoritarian looks like military, prisons	Concern with power and authority and consequently manipulation of teachers by students and students by teachers; physical force may be used	Authoritarian control, rigid system of rules, and rankings of the individuals in the class; teacher's pet, underdog

* This table represents an adaptation to education of an organizational model hypothesized by Rita Weathersby and Harry Lasker.

on somebody, not used to empower; and at the higher stages, it is empowering.

Of what importance is the relationship between a teacher's developmental stage and the public school's institutional environment? To function at higher stages, an individual must be supported and challenged according to the characteristic needs of that stage. If the implications are that the public school institutional framework inhibits the development of teachers, then the staff development challenge of the '80s is to restructure the schools to enhance the development of teachers.

Filtering Experience Through the Ego Lens

Perceptions of staff developers are filtered through their own developmental stages, from their own experiences in classrooms and schools, each with individual characteristics to their systems of control, and rules for relationships and interactions.

In talking with teachers or administrators, it is important to recognize that one's perceptions of environments are filtered through one's own ego lens. An observer may perceive a difference in the atmosphere and environments which the members (teachers, administrators) do not. Similarly, a teacher exhibiting autonomous characteristics of teaching and learning strategies may perceive differences and crucial issues which staff developers at other ego levels may not identify as important. This results in a real gap in communication.

Staff developers need to be aware of stages of development and the implications regarding the needs, learning styles, and resulting important personal and professional issues common to teachers at various stages of development.

Implications

Staff developers can use general information about stages of development of individuals and groups of teachers and classroom characteristics to plan programs that meet adults' need for support and challenge within their educational settings.

A caution is to refrain from "labeling" per se. Adult experiences are rich and diverse and care needs to be exercised in using labels because they often result in negative and simplistic judgment and ignore everpresent possibilities for growth and change.

One can use knowledge of adult stages of development in positive, supportive, non-judgmental ways to better understand aspects of life transitions, interactions with colleagues and teachers, and to address the complexity of change strategy issues in the design of program elements for effective staff development and institutional reorganization. ■

References

Alschuler, A.S., et al. *Teaching Achievement Motivation*. Middletown, CT: Education Venture, 1970.

Belenky, M.F., Tarule, J.M., Landa, A.M. *Education and Development*. Burlington, VT: University of Vermont, 1979.

Berman, P. "Thinking About Implementation Design: Matching Strategies to Situations." In D. Mann and H. Ingram, (Eds.), *Why Policies Succeed and Fail*. Beverly Hills, CA: Sage, 1980.

Bernier, J. A Psychological Education Interaction for Teacher Development. Unpublished doctoral dissertation, University of Minnesota, 1976.

Carkhuff, R. *Helping and Human Relations, Vols. I and II*. New York: Holt, Rinehart and Winston, 1969.

Friere, P. *Pedagogy of the Oppressed*. New York: Seabury Press, 1968.

Gazda, G.M. *Human Relations Development: A Manual for Educators*. Boston: Allyn and Bacon, 1973.

Gilligan, C. "Woman's Place in Man's Life Cycle." *Harvard Educational Review*, No. 4, 1979.

Hauser, S.T. "Loevinger's Model and Measure of Ego Development: A Critical Reivew." *Psychological Bulletin*, 1976.

Hunt, D.E., Greenwood, J., Noy, J.E. and Watson, N. "Assessment of Conceptual Level: Paragraph Completion Method (PCM)." Toronto: Ontario Institute for Studies in Education, June 1973 (mimeographed).

Johnson, D.W. and Johnson, R.T. *Learning Together and Alone*. Englewood Cliffs, NJ: Prentice-Hall, 1975.

Kohlberg, L. "Continuities in Childhood and Adult Moral Education Revisited." In P. Paltes and K. Schaie (Eds.), *Life-Span Developmental Psychology*. New York: Academic Press, 1973.

Loevinger, J. and Wessler, R. *Measuring Ego Development* Vols. 1 and 2. San Francisco: Jossey-Bass, 1970.

Loevinger, J. *Ego Development*. San Francisco: Jossey-Bass, 1976.

Loevinger, J. "Theories of Ego Development." In L. Bregar (Ed.), *Clinical Cognitive Psychology: Models and Integrations*. Englewood Cliffs, NJ: Prentice-Hall, 1969.

McClelland, C.C. "Toward a Theory of Motive Acquisition." *American Psychologist*, 1964.

McLaughlin, M.W. "Implementation as Mutual Adaptation: Change in Classroom Organization." In D. Mann (Ed.), *Making Change Happen*. New York: Columbia University Teachers College Press, 1978.

Oja, S.N. "Adapting Research Findings in Psychological Education: A Case Study" in *Adapting Educational Research*, USOE publication, Research Adaptation Cluster, University of Oklahoma Press, 1979a.

Oja, S.N. "A Cognitive-Structural Approach to Adult Ego, Moral and Conceptual Development Through Inservice Teacher Education—A Summary." Presentation at the American Educational Research Association National Meeting, April 1979. Available in ERIC.

Perry, W. *Forms of Intellectual and Ethical Development in the College Years*. New York: Holt, Rinehart and Winston, 1970.

Rest, J. *Manual for Defining Issues Test: An Objective Test of Moral Judgment*. University of Minnesota, 1974.

Sprinthall, N.A. & Mosher, R.L. (Eds.) *Value Development . . . As the Aim of Education*, Schenectady, New York: Character Research Press, 1978.

Weathersby, R. "Organizational Analogs to Ego States: Steps Toward a Theory Which Relates Individual Functioning with the Structure of Organizational Environments." Mimeographed copy. Harvard Graduate School of Education, 1975.

Witkin, H.A. "Cognitive Style in Academic Performance and in Teacher-Student Relations." In S. Messick (Ed.), *Individuality in Learning*. San Francisco: Jossey-Bass, 1976.

"Making It Stick"....The Problem of Accounting for Educational Change

BY GARY G. SCHROEDER

A conception of educational change is related to the nature of educational settings. Change in educational settings occurs simultaneously on a variety of levels. First, major arguments regarding educational settings are reviewed. Second, these arguments are explained through a discussion of staff development in the Department of Instruction and Learning at Murray State University.

James Herndon (1971), in *How To Survive In Your Native Land*, puts change neatly into this perspective:

> *We feel we have nothing to do with it, beyond the process of managing what is presented to us. Presented to us by whom? The principal? But the principal tells us at faculty meetings that this is the situation, he didn't invent it, we must only live with it. The superintendent? He gives us an inspiring speech on opening day, but beyond that he makes it clear that our problems are not his invention. We are all in the same boat, he wants to tell us. The board of education? The state board? The superintendent of public instruction? No, man, they didn't do it. Who decided that Egypt is just right for seventh graders? Who decided that California Indians must enter the world of fourth grade kids, or that South America must be "learned" by sixth graders?*
>
> *Nobody, it seems, made any of these decisions. No man did it. No man is responsible for them.*

This relates directly to a problem in change interventions, that of "making it stick"; the problem of translating an innovation from a short term, easy-to-identify change, to a stable, part-of-the-system, routine. "Making it stick" is elusive, because although it is often easy to identify the antecedents to proposed change, it is less easy to understand why changes in education systems so often do not bear the anticipated fruit. Too often, it seems, no man really caused a change to be thwarted....it seems to be the nature of the system.

Berman (1980) suggests that the context of an educational setting "profoundly" affects its chance for success. In particular, he points to the institutional setting or policy arena as particularly important. "Micro" settings (formal organizations such as schools or health care centers) are distinguished from "macro" settings (diverse governments, bureaucracies, local delivery systems interacting in large arenas) using the distinction to differentiate between discrete social systems and the collections of systems which comprise national policy. However, the "micro-macro" distinction could be equally applied to the individual units within which education change agents work and the collections of units between which they must operate. For example, micro systems might be the individual schools or graduate districts and all of the departments making up the School of Education.

Recognition of the micro-macro system distinction implies that change occurs simultaneously or in tandem at several levels; making it necessary to account for the change in a variety of ways, rather than by examining a few seemingly important variables. A related concept which is useful in accounting for change is that of the cultural nature of education organizations.

Schools operate according to cultural rules making change complex and difficult to control (Johnson, Collins, Dupuis & Johansen, 1979):

> *There are explicit rules and implicit expectations regarding the ways in which teachers relate to pupils, parents , administrators, and each other. Just as there are rules about smoking, so also there are specific expectations regarding dress, speech, and eating behavior.*

We often assume the relevant change elements of an education system are recognizable and accessible to participants in the system. In a cultural view, a great many elements in any organization or system are latent —"largely unintended and unrecognized by the members (of the organization) themselves" (McCall & Simmons, 1969). The latent quality of much of what goes on in the life of an education organization places many elements effectively outside of the control of the change agent. This is because these elements are not a part of the discourse, the records, or the organizational structure of the system under consideration. As such, they cannot be legitimately talked about, planned, or organized for or against. This is particularly important when a change involves a new role or self-concept for a member of an education organization. In a cultural sense, changes in role are governed by roles of social transition (Eddy, 1969), where teachers understand themselves in new roles in a context of conflicting role expectations and anticipations (McPherson, 1972). Acceptance or denial of the usefulness or validity of new roles comes only from the group within which the teacher must work. The change agent does not have direct access to group acceptance, and so cannot influence directly. Consequently, the process of change must be absorbed throughout the system. This usually takes much longer and results in variations in the education system which may not have been delineated in the original planning.

Not all change occurs through cultural processes. The history of social change in the United States during the 1960's and 1970's was one of attempting to influence education systems through the process of law and regulation. The need to legislate change supports the importance of cultural transmission because it points out the great difficulty, complexity, and time it takes to change the status quo through persuasion, training, or personal leadership. Change agents have questioned whether educational settings can remain stable enough over sufficiently long periods of time for sytemic change to occur. Often, policy changes are sought to short-circuit the dissemination process, and to ensure compliance to proposed change. Policy change, although powerful, does have the problem of creating many of the same dissatisfactions and cultural dysfunctions the change agent seeks to avoid.

Micro and macro settings can be explored by considering staff development efforts in the Department of Instruction and Learning at Murray State University.

Micro/Macro Settings in Staff Development

The effort to change graduate teacher education at Murray State University has a long history and includes a number of different change projects. By using the notion of micro-macro systems, it is possible to reflect on the scope of these changes and where they occurred. Figure 4 summarizes some elements of micro and macro systems in the Department of Instruction and Learning.

- Micro systems are those systems where there is a face-to-face interaction between the participants and the change

agents which facilitates common language, concepts, sympathies, and shared experiences.

- Macro systems are those systems which include interactions across micro systems. Macro systems usually do not provide opportunities for members for the micro systems to gain face-to-face participation across micro system lines.

Macro groups were able to develop close working relationships, establish a history of goal-directed activities and gain a shared working experience. Macro system interactions tend to be less regular, and to have less opportunity to develop shared experiences with change as was the case in the micro groups. Micro systems, have little interactions of the same sort with participants outside of the micro group on the same set of change concerns. It was often possible to generate changes (or ideas for change) within a micro system. On the other hand, it was typically very difficult to either convey the changes to members of the macro system or to convince members in the macro system to "buy into" ideas or issues proposed by micro system groups.

The following extension of Figure 4 illustrates how the micro-macro concept can be applied to all of the Instruction and Learning change efforts (related to field-based projects) between 1974-80. It emphasizes the concept that micro-macro groups are fluid. These groups identify and interact with macro systems as there is a need to place the change within the overall context which it will ultimately operate.

Figure 4 shows that micro systems generally involved relatively small groups working together over time on some specific topic. Micro groups were able to develop close working relationships, establish a history of goal-directed activities.

In all of the projects conducted by the Department of Instruction and Learning, individual micro groups have tried to change the general method of conducting graduate programs from the standard on-campus model, to a model which emphasized onsite coursework, participation in teacher's classrooms, and negotiation of course activities. Individual micro groups gained considerable experience and commitment to "responsive' ' coursework.

It is interesting to note that micro groups have difficulty promoting any one set of ideas. Groups working on the same problems develop slightly different languages, different emphases for elements of responsive coursework, and different value structures concerning goals. As such, when micro group representatives interacted with members of the macro system (university committees, school district groups, vice presidents, members of other departments) they found it equally hard to establish the same points of reference and a similar sense of "buy in." Even when micro groups developed the common grounds for coming together as a new micro group, they found it no easier to interact with members of the macro system. The paper "Change in Higher Education: An Uncharted Path" (Arends & Lovell, 1980) illustrates how even a highly organized micro group effort floundered when it had to deal head-on with members of the macro system.

The relationship between change efforts in the micro group and the macro system looks like this:

Micro System

1. develop program
2. develop acceptance in group
3. spread idea to macro system

Macro System

1. involves a multiplicity of persons
2. there are many existing role expectations which will be challenged by micro-group ideas
3. there will be a lack of experience with, or sympathy for micro group ideas

Figure 4: Selected Elements of Educational Systems Related to Field-Based Graduate Programs at Murray State U

Projects	Micro Systems	Macro Systems
Cycle 10 Teacher Corps, 1975-77	1. Work in middle school by project staff with individuals and groups on specific changes. 2. Work by project staff to develop coherent graduate teacher education program. 3. Work by project staff to produce demonstration products.	1. Work on school-wide change across faculty groups (middle school). 2. Work between project staff and other IHE faculty in department to gain approval for field-based programs (as in approval for comprehensive exam). 3. Work between project staff and DOE and University Registrar to approve certification for teachers after Teacher Corps project. 4. Work with college faculty to explain Teacher Corps.
Kentucky Partnership 1977-80	1. Work with dean, superintendent, and department chairperson to develop and operate project. 2. Work with individuals and groups in the schools on program development.	1. Work with intra-school groups and cross-school groups for consensus on improvement programs. 2. Work on mechanics of multiple-agency funding agreements.
Henderson Project 1978-80	1. Work with individual teacher process groups on individual professional growth. 2. Work with developing and maintaining the graduate center in Henderson.	1. Work by Henderson project staff with on-campus professors in matching courses to the Henderson program. 2. Work by Henderson project staff with Henderson district administrators on staff development.

Figure 4 Extended: Micro and Macro Systems in The Department of Instruction and Learning, 1974-80

	Micro Systems	Macro Systems
Department of Instruction and Learning 1974-80	1. Individuals and small groups working to conceptualize, develop, and conduct field-based projects. 2. Individual committees work on the "regular" graduate program. 3. Committees working to pull together ideas from the field-based projects (1979-80).	1. Individuals work to disseminate knowledge of individual projects among department faculty. 2. The department as a whole working to develop directions for off-campus programs. 3. Work by groups to inform other university departments about I&L field-based projects. 4. Regular contact between I&L with University Vice President for Academic Affairs and university committees.

4. there will be so many different relevant people to see that time will be difficult
5. some groups will have competing ideas to promote

Ideas developed in micro systems often achieve little change in the macro system. It is often simply too hard to influence enough people or groups in the macro system to gain overall system acceptance of an idea. The resulting effect is a translation of a micro change into a change of the way business is done in the macro system.

The preceding discussion would almost suggest that real, systematically disseminated change is almost impossible to achieve. In fact, many workers in education consider this bleak idea to be close to the truth. However, the preceding discussion also implies a general, linear model for change (see Figure 5).

This model provided an efficient way for working out change ideas in micro settings at Murray State University. In these settings, it has been possible to share experiences, cooperate, and go about the process of change. At the point of interaction with the macro system, however, (typically at the point of implementation and institutionalization) the model seems to break down. The point at which there is follow-through with the change becoming part of the standard operating procedure at Murray State U rarely occurs. In fact, an official change towards responsive inservice gradu-

Figure 5
A Linear Model for Change

Stages of Change / Berman's Factors Affecting Change Strategies	Problem Identification	Develop Consensus on Solution	Program Development and Acquisition	Implementation (Adaptation)	Maintenance and Renewal (Institutionalization)
1. Scope of Change 2. Certainty of Theory or Technology					
3. Stability of Environment					
4. Conflict Over Goals and Means					
5. Structure of Institutional Setting					

* Adapted from Berman's ideas (1980) by Lou Carey and Robert Ho for the Teacher Corps Research Adaptation Cluster.

ate programs has never occurred at the University level.

It may be that we are not really cognizant of the changes which have actually occurred. Figure 6 and Figure 6 Extended illustrate another way of accounting for change.

Figure 6 and its extension present a view of accounting for change which accommodates both the micro and macro elements of education systems, and also the cultural ways change is disseminated. As can be seen, changes in conducting the graduate programs (from an on-campus model to a field-based model) occurred (and continue to occur) over the span of six years. A variety of micro-groups pursued this change, with each group adding its own effect to the systemic change. In Figure 6 extended, the change effects accumulate over time within the micro and macro system. Given the cultural view, as the changes occur incrementally, they are absorbed by the social system, and ultimately, become the standard way of conducting business. This sort of incremental change has taken place in the Department of Instruction and Learning, and although there continue to be questions raised about specific techniques, field-based programs are generally anticipated as being part of the department's activities. Although this process of change is only briefly referred to in this paper, by using the accounting system suggested in Figure 6 and 6 extended, it is possible to document how the change occurred, and to show that the change has been maintained. Other effects of change such as interactions with the university vice president and university standing committees also need to be documented to develop an understanding of the efforts which have begun to accumulate in these micro systems. The results of this documentation would indicate few real interactions occur between I & L micro groups and non-I & L groups within the university macro system. As a result, the ideas of Instruction and Learning faculty about field-based programs are little understood or accepted outside of the department. With this understanding, it is possible to suggest many more diverse efforts that need to be made to eliminate conceptual dysfunction between groups, so that change can begin to be disseminated throughout the macro system.

The timeline in Figure 6 does not end. In a cultural sense, change is not bound by the lifespan of specific project-based change efforts. The change agent always has the option of generating new micro-group efforts in a continuing attempt to accumulate necessary change effects. This is particularly important if the change agent sees there are no change effects which will bridge the gap between micro groups within the macro system (i.e., bridging the gap between the director's micro group and the university administration). Without specific mechanisms for cultural transmission, changes will not be disseminated.

Summary

The given approach to thinking about change may make change more manageable for the change agent: change occurs within the micro and macro systems. Macro systems are not bound by time, and change efforts occur in an open, rather than, a closed system. Most changes are worked out within micro systems because these systems are relatively small, task-oriented, and culturally similar enough to develop sufficient shared experiences to produce change. Micro systems , however, are limited by the fact that they exist within macro systems. Macro systems comprise all of the micro systems that have responsibility for, or interest in, education in an area. Micro systems share the responsibility for education, and so changes proposed by individual micro systems must be disseminated throughout the macro system. Dissemination of change occurs largely through cultural processes, wherein people come to know, understand, and accept new ideas. This sort of dissemination takes a long time, and is complex, requiring the change agent to account for accumulating effects in the hope of directing change. In particular, accounting for accumulated change allows the change agent to provide interventions where effects are not accumulating. One problem is that educational macro systems are often not stable enough to allow the cultural process

Figure 6: Long-Range Systemic Accounting for Change

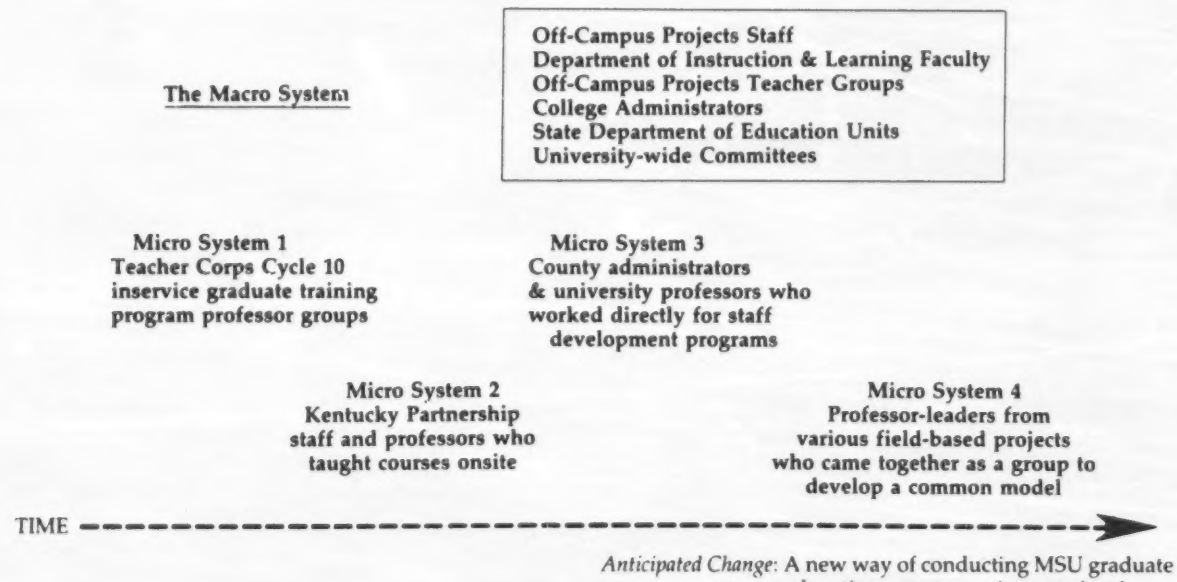


Figure 6 Extended: Examples of a Method for Accounting Effects from Micro System Change Efforts

Anticipated Change: A new way of conducting MSU graduate education programs (responsive service graduate education)

Effect 1: A different attitude among instruction and learning faculty toward field-based projects.

Indicators:

A. At least 90 percent of the Instruction and Learning Faculty have participated in field-based work.

B. Cycle 10 Teacher Corps and the Kentucky Partnership have sponsored meetings to raise faculty consciousness about field-based work. These meetings have generally been successful.

C. Samplings of faculty who have taught responsive courses indicate that they have positive reactions to working directly with children and teachers in their classrooms.

D. 30 to 40 percent of the I & L faculty have willingly participated in more than one responsive course experiment.

Effect 2: Clarification of the definition of responsive coursework.

Indicators:

A. Papers written and shared with faculty describing field-based programs and raising issues relating to coursework.

B. New comprehensive exam formats for elementary and secondary education have been written that are similar to those proposed through Cycle 10 Teacher Corps and the Kentucky Partnership.

C. Micro Group 4 formed of project leaders from the Kentucky Partnership, Project '78 Teacher Corps, the Henderson Project, and Project PATL to write a common model. Two papers produced, one of which was presented at ASCD '80.

Note: Many other effects and indicators can be cataloged in regard to this change. Due to lack of space, only these effects have been presented.

to run its full course. Often, change agents try to effect policy changes as soon as they can, so the change they hope to achieve will short-circuit the normal dissemination routes. Unfortunately, merely because policy decisions have been made and coded does not mean that they will be effectively implemented if they violate cultural realities in the macro system. Perhaps this is why educational change is such a challenge. The change agent must constantly work between the desire for quick change which may produce system dysfunction, and the painstaking, long-term process of overall dissemination of change through the cultural process. ■

References

Arends, R.I. & Lovell, K.C. "Change in Higher Education: An Uncharted Path" in *The Journal of Research Adaptation: Impact Studies*, The Research Adaptation Cluster, University of Oklahoma Press, 1980.

Berman, P. "Thinking About Implementation Design: Matching Strategies to Situations" in D. Mann & H. Ingram (Eds.) *Why Policies Succeed and Fail* , Beverly Hills, California: Sage, 1980.

Eddy, E.M. *Becoming A Teacher*. Columbia University, Teacher's College Press, 1973.

Herndon, J. *How to Survive In Your Native Land*, 2nd edition, New York: Bantam Books, 1972.

Johnson, J.A., Collins, H.W., DuPuis, V.L. & Johansen, J.H. *Introduction to the Foundations of American Education*. Boston: Allyn & Bacon Inc., 1969.

McCall G.J. & Simmons, J.L. *Issues in Participant Observation A Text and Reader*. Reading, Mass.: Addison-Wesley Publishing Co., 1969.

McPherson, G.H. *Small Town Teacher*. Cambridge, Massachusetts: Harvard University Press, 1972.

Schroeder, G.G. & Hainsworth, J.C. "A Responsive Inservice Graduate Education Model" in R.B. Childress (Ed.) *A Collection of Inservice Models*. Mid-South Teacher Corps Network, 1978.